

The Aesthetics of Emergence

processual architecture and an ethico-aesthetics of composition

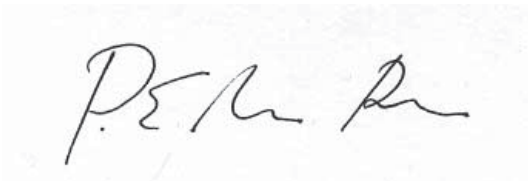
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Declaration.

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and, any editorial work, paid or unpaid, carried out by a third party is acknowledged.

A handwritten signature in black ink, appearing to read 'P. Ednie-Brown', is written on a light-colored, slightly textured background.

Pia Ednie-Brown
August 2007.

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There are many things that the process of doing this thesis has taught me. Perhaps the most important, however, is the value of a range of relationships that are deeply imbricated in its doing.

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I think Aphra would share my desire to dedicate this document to my mother, Dale, who died way too young. But not before she had taught me, amongst other things, about style, a passion for living and a commitment to refinement through practice.

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Abstract.

Principles of design composition are commonly understood to pertain to geometrical systems for arranging parts in assembling a formal whole. Connection to socio-cultural 'meaning' and relevance arguably occurs primarily via the assumed divinity or universality of these systems. In the contemporary architectural world, where explicitly held beliefs in fundamental, geometrically defined principles or values have dissipated, guiding principles of composition appear to be obsolete. This seems particularly true in relation to work that highlights the processual – or change, responsiveness, interactivity and adaptability – since this implies that the composition remains in flux and unable to be grounded in the composition of form. While processually inflected architecture (referred to here as 'processual architecture'), has been an active field since at least the 1960's, it has been significantly developed since design experiments involving digital computation intensified in the 1990s. For this field of work, both highly celebrated and criticised as superficial or unethical, any connection to 'meaning' or value that might be offered by principles of composition would appear especially lost.

This thesis reviews, counterpoises and reorients these assumptions, arguing a case for the value of processual architecture that has not been previously articulated. After the last 10 to 15 years of digital experimentation, it is clear that digital technology in itself is not the primary issue, but simply part of a complex equation. The thesis articulates this 'equation' through the model of emergence, which has been used in the field with increasing prominence in recent years. Through both practice-based research and theoretical development, a processually inflected theory of composition is proposed through an aesthetically oriented connection between models of emergence, affect, resonance and an ethics of behaviour, or a mode of engaging in the world. This offers pathways through which the potential of processual architecture might be productively developed, a contribution holding particular value for architectural pedagogy and for opening up this field of work into a deeper engagement with pressing contemporary socio-political issues.

The thesis demonstrates how the cultivation of particular modes of attention and engagement, found to hold an implicit but nevertheless amplified significance within processual architecture, make it possible to develop an embodied awareness pertaining to an 'ethico-aesthetic know-how'. This know-how is acquired and matured through attention to the affective dimensions that arise through the process and products of design activity. The approaches demonstrated by the thesis highlight aspects of design activity that are routinely suppressed in architectural discourse, generating new insights into the importance of affect for design process, design products and the relations between them. The ethical dimensions of such an approach

become especially poignant through the explicit connection made between design activity and the practices of everyday life. Relationships between architecture and the social become re-energised, in a radically alternative manner to the social agendas of modernism or the more literary critiques of post-modernism.

Through detailed discussions of the specific, local conditions with a series of design projects I have undertaken, I argue how and why close attention to the affective dimensions of design process offers new and productive ways to approach research through design practice. This offers a response to the calls for new 'post-critical' forms of research through empowering both sides of a previously held divide: theory and practice.

The introduction outlines the issues addressed and the methodology employed and the conclusion outlines the theory of composition proposed by this thesis. Between these two 'ends', a series of 'Acts' are arranged into three Parts. These 'Acts' can be considered as enactments of the process of researching, each assembling and reassembling key issues and ideas. Each Part involves a different emphasis in terms of both content and mode of enquiry:

1. A largely theoretical, critical analysis of a broadly scoped situation and set of related concepts.

This involves an analysis of relations between emergence, aesthetics and ethics, situated against a general diagram of contemporary socio-cultural conditions and its relations to my experience of making an etching/drawing. I draw upon theories from philosophy/aesthetics, science and psychology in establishing the nature of an ethico-aesthetic know-how.

2. Analyses of specific, relevant architectural work.

This part outlines the field of processual architecture and its relationship to a history of composition theory. It focuses on a critique of Greg Lynn's practice, as a prominent and exemplary figure in the field, with attention to younger practices such as biothing, Minifie Nixon and kokkugia. I discuss my experience of making a series of plaster sculptural objects, an investigation poised in relation to Lynn's animated diagrams, to explore issues of perception, aesthetic vitality and the

nature of the event of making. The late 19th century thesis of Heinrich Wölfflin on psychology and architecture, as well as Robin Evan's essays on translation and geometry in architecture, provide counterpoints aiding the critique of Lynn's work. Through these specific examples I review a range of aesthetic concepts, design problems and tools such as style, sensibility, translation and diagrams, re-framed in terms of ethico-aesthetic know-how. I argue that the comportment, or stance and manner of an author, whatever kind of artefact they might be producing, has immeasurable implications on that which it becomes possible to openly account for, pay attention to or gain access to.

3. A very particular exploration of local, affective conditions of design practice.

Detailed examinations of a series of collaborative design research projects, in the form of interactive installations that I have been involved in, draw attention to affective dimensions within a variety of engagements, in a range of different acts and situations. This part develops compositional armatures tailored for an ethico-aesthetic know-how in design composition, alternately discussed as 'flexible moulds' and 'affective diagrams.' These 'armatures' offer elastic or dynamically responsive frameworks for cultivating the modes of engagement discussed in terms of an ethico-aesthetic know-how.

Introduction.

The age of emergence

For those of us old enough to remember, the process of writing has been transformed since the personal computer. No more scribbling out and rewriting. No more typing up and formatting only after it's been written. On the one hand we can more intensively rearrange words, rewrite, over write, recompose, polish. On the other hand when writing and making it public happens in the same set of gestures (sms, email, wiki, blogging etc) there is an intensified informality. The 'properness' of the text breaks down as writing tends toward the immediacy of speaking. Graffiti and notes passed furtively during class gave us these qualities, but information technology allowed it to spread like a contagion. The gap between creative composition, its reception and reflection folds inward.

This is one small example of a broad set of tendencies that are presented here as endemic of the contemporary situation in the 'developed' world. The last decade has involved quite extraordinary shifts in the flows and rhythms of daily life. It still astounds me that the commencement of this doctoral research project in 1997, the year I also commenced my first full time academic position, coincided with my introduction to the internet, email and mobile phones as a feature of daily work practices. These technologies had been around for quite a while, but not to the degree that they were then beginning to deeply infuse the architecture of our social and cultural operations. One could say that this past decade has been a passage through the late phases of the information age and that, as we now tentatively step into a world increasingly inflected by both digital and biotechnology, we are entering another phase shift, which I refer to as 'the age of emergence.'

The term 'emergence' refers to a model of the complex operations of the world and is seen to be "a ubiquitous feature of the world around us."¹ As such, emergence becomes the name for a contemporary understanding of

1. Holland (1998), p2

the laws of nature. From there, it's not so big a leap into the subject of God. As a discursive construct it seeks to explain, often through mathematical frameworks, the way that complex, global forms of organization come into being through simple, local behaviours and rules, in the absence of any apparent, centralized or dominant control mechanism. A very powerfully significant feature of emergence is that it is no less applicable to economic systems, games and urban planning than it is to living and natural systems. With emergence, culture and nature are artfully swept together.

There is no one reason why emergence as an operational model has, particularly since the 90s, been intensively researched and enjoyed some special status in terms of our developing understanding of the laws of nature. However, there is no doubt that it provides a model that describes the nature and organisation of contemporary socio-cultural operations particularly well, and vice versa. Emergence becomes an academic construct for approaching the atmosphere of our present era and defining, to some extent, what it means to be 'contemporary'.

The art of emergence

The science of emergence has been developed through digital technology, where simple mathematical processes have been seen to give rise to impressively complex forms of organization. Within the associated discourse, something related to the 'art of emergence' is sometimes tentatively discussed or mentioned in passing. At times, the need for understandings coming from outside the strictly scientific have been suggested as crucial for approaching the mysteries plaguing the model of emergence, but research has largely been restrained to scientific frameworks.

Perhaps strangely, this remains largely true even where artists and architects working with digital technology have attempted to directly approach emergence. The overwhelmingly predominant tendency in the relevant examples in art and architecture has been to approach the work from a largely scientifically-oriented perspective with far more attention to techniques and technologies than to the aesthetic properties or implications of their work. This is almost certainly not the case in terms of what goes on when an artist or architect create their works, but it is the case when they come to discuss it. This unspeakable absence or lack of acknowledgement is symptomatic of a broader problem in the arts and humanities related to the supremacy of scientific frameworks. My aim here is to contribute to an effort to strike a better balance, where aesthetics is revived as a worthy and valuable aspect of research.

If processes of emergence are ubiquitous in the world around us, operating as part of the laws of nature, they are also integral to the way in which the world and life comes-into-being and endures. In other words, emergence is an issue of *composition*: the process and outcome of combining things to form a whole. As soon as that connection is made, the notion of composition as a formal arrangement of parts is given a processual or performative spin, because emergence models processes of interaction or the dynamics of unfolding relations. In turning to the aesthetic dimensions and implications of emergence, I predominantly approach it through the notion of composition, in which the role of diagrams is nested and out of which related understandings of styles and sensibility are developed.

Processual architecture and philosophy

Along these lines, this thesis explores architectural composition in the age of emergence, making propositions about the implicit shift of attentions and ethical dimensions therein. To a large extent it has arisen through an effort to outline the value of a field of digitally inflected architectural research I refer to as 'processual architecture.' I have taken up the work of Greg Lynn, whose practice made an incalculably influential move in the mid-1990s, as being of special importance within this field. As such, processual architecture is closely associated with what was more commonly referred to as 'folding' or 'blob architecture', both of which came to stand as dominant 'avant-garde' domains of digital design. While the broader field involves and incorporates very significant divergence and variety, it can nevertheless be seen as an identifiably new discursive milieu or style that came to the foreground in the 90s and has endured through its own developments and new trajectories to the present time.

I have been deeply compelled by this field of work, possibly even more so since it lost much of its 90's shine. But there has been reason to feel suspicious of its seductions and rhetorics.² As clearly compelling as this work has been, the depth of its value and substance has been less obvious to many. Relevant practitioners have often discussed the work in troublingly unsatisfying ways. The work itself was often difficult to build and/or rested on emerging technologies that promised more than they could currently deliver. After the last decade of digital exploration, it is clear that digital technology in itself is not the primary issue, but simply part of an equation. However, the articulation of a fitting equation that might outline a broader and richer project implicit to the field is hard to find. My hope is that this doctoral thesis offers one such articulation.

2. A pervasive sense of the disturbing effects of digital architecture and the assessment of such work as lacking in ethical depth is well covered in Ostwald (2004). A related, but far more romantic, response to this field of work can be found in Perez-Gomez (2006) where he dismisses the area as fundamentally unethical: "some contemporary architects have sought to collapse 'theory' and 'practice' in new 'algorithmic' processes of design that avoid subjective 'judgement' and produce novelty through instrumental mathematical operations. Made possible by powerful computers and ingenious software the new algorithmic magic creates novelty without love, resulting in short-lived seduction, typically without concern for embodied cultural experience, character and appropriateness" (p. 28).

3. See Greg Lynn, 'Architectural Curvilinearities: The Folded, the Pliant and the Supple', in Lynn, Greg and Papadakis, Andreas (1993), pp8-15

As a discursive phenomenon that took the place of its predecessor, deconstructivist architecture, there was an explicitly articulated turn away from contradiction and conflict toward pliancy and smoothness.³ For some critics, this involved a deficit of critical analysis and a superficial formalism. The proliferation of renders in which forms floated against black backgrounds seemed to speak of an ungroundedness. If these were explorations of potential more than existing possibility, what were the more specific behavioural traits and broader values of this potential?

I initially approached this question partly through a deep interest in the lineage of thought often held under the name of Deleuzian or process philosophy: a field of non-reductive, materialist thought through which concepts of emergence are historically entangled. Gilles Deleuze and Felix Guattari had caught my wide-eyed attention some years before I heard of Lynn, who drew Deleuze and Gottfried Leibniz into his *Folding in Architecture*, and the innovative mix of philosophy, technology and technique drawn together in his later book, *Animate Form*. I spent years immersed in Deleuze, Guattari, Leibniz and Henri Bergson before I stumbled upon Brian Massumi and his early writing about Greg Lynn. Gradually, Massumi's work took on the most influential role in my research,⁴ amidst the broader field of process philosophy. One way of understanding the process of this doctoral research is as a re-processing of Massumi's writings, or recasting the complex configurations he assembles through other material, with the aim of transducing it into forms that more deeply imbricate the practices of architectural design.

4. Given the significance afforded to laughter in Act 4, it is not insignificant that one of the attractions to Massumi's work was the fact that I would often find myself laughing out loud while reading his texts. Very few philosophical texts have this effect on me.

Process philosophy overlaps with post-structuralism, the target of Alan Sokal's famous 1996 hoax and the subsequent book 'Fashionable Nonsense'. This derogatory term, 'fashionable nonsense,' resonates with and sums up a commonly held view of processual architecture by the mainstream architectural profession and conservatively oriented academia. Many of the objections made by these positions are not too hard to understand or even, at times, sympathise with. But they are often based in a blunt dismissal of ways of thinking and practicing that diverge from a very particular logic or kind of activity. While I have not addressed these objections and dialogues in any detail, my hope is that I have sufficiently outlined the insensitive 'dumbness' of reductive standpoints in general while also acknowledging their usefulness, value and power.

Modes of Research

Early in my candidature, we witnessed a discursive pronouncement regarding the demise of critical theory as the authoritative mode of research.⁵ This was not disconnected, I would argue, to the nuances and implications of processual architecture. Was this apparently 'post-critical' phase a stumble into formalist thoughtlessness or was it a different way of thinking deeply? Was it just smooth advertising and the gleam of new technologies that made it compelling, or was it truly resonating with some of the more confounding but key aspects of our broad contemporary situation? Was its success reducible to political supremacy, cultural networks and wealthy, elite practitioners or did it actually touch a deep contemporary nerve of broad cultural significance? My hunch was that the more generous view in each case was the more accurate answer. But this is not to say that the work was unproblematic. In my discussion on the work of Greg Lynn, it is through the very struggles and problems that can be seen to have arisen in his work that much is revealed. These struggles are especially poignant because they resonate with very substantial, ethical problems of our time.

5. See Hayes; Kennedy (2000)

In addition to the more critical and/or philosophical modes of analysis, I have undertaken a significant amount of project-based research. This has enabled me to develop a range of understandings that would simply not have been possible if I had restrained myself to books and writing. Project work both grounded and re-distributed my enquiry into material-social fields of action. Project-based modes of enquiry gathered impetus and significance for me in the years following the birth of my child: the most powerfully non-reductive, materialist experience I could hope for. As an experience that occurred almost perfectly at the mid-point of the doctoral research, it gave an impetus to a second phase that gradually unfolded and transformed all that had occurred in the first half.

To a significant degree, this thesis involves an effort to develop a way of approaching research that deeply imbricates both theorizing and creative practices. It began in thesis mode and then turned into a PhD by project, a doctoral model based on project work with an exegesis. It then shifted back into thesis mode when I realized I had written far more than the project mode would allow. As such, the research straddles these two modes, being a substantial written thesis that involves a great deal of project work as part of its enquiry.

But as a whole, I prefer to see this doctorate as a project that contains an assemblage of inter-related projects within it. These projects vary significantly in nature and scope: there is critical, theoretical enquiry, drawings, sculptural objects and interactive installations. These sometimes involve (almost) working alone, other times working explicitly with others through collaborations and teaching. Thinking occurs through them and across these modes and media.

The projects discussed in this thesis were like living creatures that I was responsible for, but were never utterly in my control. They provided legs with which vaguely forming ideas could learn to walk and take unplanned excursions to return with unexpected surprises. They frustrated my progress, always seemed to be diverting me from focussed paths, confusing me with their immensity, fatiguing me with their demands and unpredictability. But then, they would turn around and help me realise something that I didn't see coming at all, because it was embedded too deeply in the invisible ground of the taken-for-granted. They threw me around and often tripped me up, to then cast the habitually-invisible back into view. It takes many falls before we learn to walk, and perhaps just as many to learn how to re-appreciate the ground we crawled on, but this time with the benefit of having also experienced a sprint for the horizon.

Perhaps this thesis, just quietly, is partly a manifesto about parenting. If creative practice might teach us something also useful to parenting, the reverse is perhaps even more likely. Children teach us as we teach them, just as projects help develop our practice as much as we guide their development. But if some parts of this thesis could be seen as covert guides to parenting, this is only because my investigations became increasingly aimed at appreciating how much we are guided by the things we set out to guide. This is an important ingredient, I believe, for a 'recipe' that turns designing into research.

On Generalisation

What becomes articulated here is, on one level, folded out of the personal: it is my creative practice that inheres the methodologies of research. I have been researching 'ways of doing' and could not have done this without doing, or practicing (whether writing or making physical objects). I can't escape the specificity at work here, nor do I believe it would be beneficial to do so. The personal is one moment of a broader condition – it is both idiosyncratic and collective. My attention in this document vacillates between very, perhaps painfully personal accounts and extremely abstract, more generalised accounts of the world. In between, there are other modes that nestle into mixed doses of intimacy and distance.

Within conventional understandings of research the 'personal' is seen as a weakness, where the subjective is understood as always doubtful: a purely relative phenomenon, burrowing into lonely habitats lacking necessary connection to universal truth. Worse: it can swing wide of the recognised marker of generalisation, which is perhaps the biggest reason why so little research can bear to admit to it. Usually, the value of a scientific generalisation lies in its potential to be repeated. It is a kernel of truth because it indicates pathways to reliable outcomes. It is seen as transcending the specificity of the moment because any difference this entails is rendered trivial or inconsequential. The effectiveness of this approach is often very real. But it has limitations, for what happens to the so-called trivial or inconsequential? It is unacknowledged. The kinds of intelligence required to respond to the nuances of specificity are ignored.

But news of the insoluble affects of the observer are no longer headlines. Sciences self-unsettlingly announced this a long time ago. Furthermore, it has been thoroughly argued (via pragmatist, phenomenological and post-structuralist thinkers) that personal subjectivity is always more or less collective because experience rests on both physiological and culturally inflected constitutions.

Nevertheless, the habits of research culture persist with largely suppressing this dimension. The habitual is an architecture with about as much resilience as buildings: they are hard to change or move. One dubious habit of research conventions is the stance of the all-knowing-human-subject observing the natural 'object' while being immune to observation themselves. The irony is that this all-knowingness dampens the development of valuable generalisations which might hinge on the degree to which they can survive the specificity of events. As phenomenology and radical empiricism insist, "There is no abstract knower of an experience that is separate from the experience itself."⁶ There is no generalisable knowledge or intelligence that did not arise through specificity.

6. Varela, Thompson and Rosch, *The Embodied Mind*, p26

Words for related kinds of intelligence are 'responsivity' and 'spontaneity'. Generalisation that values this intelligence is not just about repeating, it is about differentiation through repeating or iterating. All practices develop, refine, perfect their concepts, proofs, compositions, performances etc. To practice is to repeat, wherein the differences are recognised, accounted for and absorbed; that which comes to be 'true' needs to be tested and developed through the specificities of difference. As Rudolf Arnheim has written:

7. Arnheim (1997), p187

"True generalisation is the way by which the scientist perfects his concepts and the artist his images. It is an eminently unmechanical procedure, requiring not so much the zeal of the census-taker, the bookkeeper, or the sorting machine as the alertness and intelligence of a functioning mind."⁷

An alert intelligence, that can artfully deal with the contingencies of any moment, is what scientific generalisation artfully passes over in silence.

Methodology

"In some historical moments and with regard to some empirical questions, the role of theory may be to summarize findings and predict what one is likely to find in the future....[but] we need a different kind of theory, one that will warn us of what we dare not miss as we conduct the research that the uniqueness of the current moment makes unavoidable."

Jack Katz, 'Start Here: *Social Ontology and Research Strategy*'

Sociologist Jack Katz, in a paper, 'Start Here. Social Ontology and Research Strategy,' outlines a methodological approach that has assisted me in clarifying the approach taken in this thesis. Katz promotes an approach to research that is explicitly attuned to the embodied nature of all action. Implicitly, he assumes a spatiality founded in lived, bodily space-relations. While he rarely makes explicit reference to the role of the built environment in his analyses, his methodology is, I believe, beautifully set up to consider the intersections of the social, the built environment and acts of creative production.

The ground of Katz's research is a complex, thick horizontal field of relationships in which no part of reality is significantly 'elevated' above any other. This ground is inhabited as a spatial experience; nothing escapes an

experiential field in which all dimensions of events collaboratively interact, even those dimensions that are only virtually present, such as memories or histories. Crime, for instance, is not to be regarded as the product of some kind of power structure (applied from above) but is “a form of social interaction built up through other forms of social interaction.”⁸ Similarly, laughter, crying and anger are not simply the products of, say, humour, sadness and hatred, because the act of emotional expression and the associated category of feeling are co-created as interlaced social interaction. Analogously, a creative research project is not simply the product of, say, design intent, a proposition or even a research question because all of these are co-created as interlaced social or discursive interaction. Research questions and intentions need to at least begin taking form from the start, but if they haven’t shifted by the end of that event, little has occurred. The questions and intentions shaping a research project are reshaped by the events of researching.

8. Katz (2002), p4

Within Katz’s experiential space of interaction, all action is motivated, situated and pragmatic, to the extent that perception is inseparable from the process of doing something. Perception is not passive reception of information ‘out there’, it is conditioned and produced by what we do and how we do it. That which we come to perceive occurs in relation to our behavioural capacities and modes of attention therein. These capacities are not simply given, but are dependent on the modes and degrees of attention that any subject is ‘trained’ to achieve. This includes, though not exclusively, the kinds of attention we learn in educational institutions.

Behaviour, down to the minutiae of its gestures, is always part of a project. This includes interaction with our environments:

“Everyone and every material environment we encounter has a pragmatic significance for us. Even if it is only as a ‘familiar’ environment that, by requiring no special attention, enables us to focus energies on something for which it is the framing background.”⁹

9. Ibid, p4

The thick space of experience is always being grained, textured and directed by these background conditions. While aspects of this texture come to light, much of it remains in shadow. Perception is largely nonconscious. It is ‘nonconscious’ rather than ‘unconscious’, because unlike the later, the former is not so much repressed as simply operating outside the range of our particular capacities for *conscious* awareness.¹⁰ Consciousness arises through embodied means to the extent that its opacity always casts shadows:

10. It should be acknowledged that Katz uses the word ‘unconscious’ and that my distinction between these terms draws on Stern (2004).

"Everything brought into focal attention, all contents of consciousness, any thought contemplated, even the frames of awareness and the perceived context of action are all always created through the action of a body that in some back region operates in the shadows, beyond the immediate reach of awareness."¹¹

In trying to work through the less 'visible' strings that puppeteer our actions, this 'back region' has been a primary area of attention in this thesis. This is partly about developing an awareness of action we tend not to consciously notice, but it is also about working out unrealised connections. This is not unlike the art of the detective.

The detective looks for clues that might lead to otherwise hidden facts regarding how something happened. Usually, detective stories revolve around a crime of some kind in which there is a clear motive for concealing evidence regarding what actually happened; to escape condemnation, the criminal must maintain the appearance of innocence. But if we think of crime as firstly a form of social interaction rather than the violation of law, as Katz (1988) argues at length, we begin to see how all social interaction involves similarly motivated concealments.

In a similar fashion, I have approached the products and processes of creative production as forms of social or relational interaction, rather than acts applied to the social. Taking account of the fact that all forms of perception and conduct are always embodied and actively generative, holds implications, as Katz suggests, that call for a radical reappraisal of conventional research practices. Katz's reappraisal suggests that:

"a researcher who would understand and explain any form of social conduct should seek evidence about:

- (1) how it is constituted through interaction, in one sense or another collaboratively and in anticipation of its meaning from the standpoint of others;
- (2) how everything, even the most seemingly idle comment or glance, is part of practical course of action, a project, the innovative execution of a recipe, an effort to do a certain kind of social thing;
- (3) how all awareness and action is created by corporeal processes that are themselves beyond the actor's direct awareness, but that are visible to the researcher."

Implicit to Katz's outline here is an attention to the relationship between micro-scale interactions and a larger or more encompassing aesthetics of activity. He draws attentions to fleeting, often apparently trivial or 'naturalised' expressions, such a cough, a laugh and a look, and shows

how these can be understood as artfully concealed strategies and tactics. In being revealed, these acts draw attention to the aesthetics of composure – or how the dynamics of exchange and expression are, in themselves, acts of aesthetic composition. In exploring the relationship between micro- and macro-scales of activity, Katz's work demonstrates how, as I argue, the ethico-aesthetics of emergence has always been pertinent and integral to everyday life.

Here I am seeking to understand and explain the activity of design composition (or 'creative process') as a form of 'conduct'. In dealing with it in this way, I am then able to offer a way of understanding and explaining the way in which dimensions of a project that vary wildly in nature (such as formal descriptions, poetics and technical processes) can collaborate in generating an overall composition.

The three forms of evidence Katz lists are not strictly delimited and are far from water-tight containers; they all fold into one another, by necessity. While the first two are not hard to relate to the activity of designing, the third kind of evidence requires some reappraisal here. Katz, in considering sociological research, separates the 'actor' and the 'researcher', one of whom is able to observe (and should be on the look out for) processes that the other is unaware of. In considering the act of making something as a research event, the maker is not able to observe themselves or their own corporeal processes if they are, by nature, beyond their direct awareness. The 'actor' and the 'researcher' loop into the one person. But another entity partners that actor-researcher: the artefact. Across this thesis, I have discussed various ways in which otherwise outside-of-awareness corporeal processes – such as kinds of attention, the stance or posture of authors and relational tensions embodied in a design arrangement – become embodied in and through a range of compositional arrangements (not all of which emphatically pertain to design activity). The things we write, draw, make etc all embody a certain arrangement of content that is indicative of the way in which we approached, worked with and *processed* that content. Various artefacts – both 'end-products' and traces of process (sketches, memories, emails, notes etc) – are left behind in the way that a video of an interaction might be left behind for future close analysis. These kinds of artefacts, along with nuances of interaction (between both elements of an artefact and collaborators), are used as material for analysis in terms of how they contribute to assembling a composition understood in terms of behavioural or eventful texture.

12. Note Irving Goffman who was influentially famous for writing sociology from the point of view of a participant – perhaps a party guest, or a man in a train or waiting room.

13. However, this is more-or-less the mode of research that Inger Mewburn, who plays an important part in the project based research discussed in this thesis, has gone on to adopt in her doctoral research. Her close and thorough analysis of gesture and the incorporations of physical objects within design process and exchanges between designers, is generating some fascinating insights. I anticipate that her work will produce some clarifications on issues left swinging vaguely here and enable some productive future development on this thesis.

14. Katz (1999), p343

15. When something is done or said in passing, it is a peripheral issue that, for some reason that is often not at all clear, was felt to be worth doing or saying. It provides detail that is usually posed as ornamental or incidental (unnecessary/irrelevant/secondary). But as a feature appearing on the surface it burrows in, knots, ripples and spreads its flavour, qualitatively shifting that which it was intended to simply pass by. The in-passing can be indicative of dimensions not immediately available to awareness.

The artefact and the events of a design process don't 'bear witness' to things in the same way that a sociologist¹² can – who is conventionally set apart from the events in order to observe – and I am not offering the kind of analysis that might be gleaned from the stance of a sociologist.¹³ What I am doing here involves utilising an attention to resonance to draw out the significance of routinely backgrounded, outside-of-awareness events within design activity.

Importantly, every resonance has its own complexion or texture (like the idiosyncratic quality of every laugh). This texture becomes most emphatically present in moments of intensity (of expression and change). Katz sketches out how such a texture arises in a way that encompasses other facets of social conduct:

"Something is happening in crying, for example, that goes beyond any strategic 'work' that the person may be 'doing' and that is not captured by discriminating the interaction 'practices' the person's behaviour demonstrates. *Some sort of feeling arises. Between oneself and the world there is a new term, a holistically sensed, new texture in the social moment, and one relates to others in and through that emergent and transforming body for experience.* A kind of metamorphosis occurs in which *the self goes into a new container* or takes on a temporary flesh for the passage to an altered state of social being."¹⁴ (my emphases)

This 'new texture' is the quality or complexion of an event of resonance: an always collaboratively (ie collaborations of human and inhuman, actual and virtual dimensions) constituted aesthetic of the event.

The way in which I came to give structure, or contour, to the sheer and inexhaustible complexity entailed in any design event involved recognising moments of resonance arising between events and things. This becomes most clearly manifest in Act 9 and 10 which discusses two collaborative projects in terms of a particular assemblage of relations that are cast and recast through multiple and diverse events, scales and media. Each of these recastings resonate to produce the emergent 'texture' of the project – its composure or conduct. These collections of resonating assemblages were gathered through affording events such as laughter and collaborative disagreements,¹⁵ unusual significance in that they came to be seen as integral, rather than incidental, to the composition of the projects.

This approach to studying conduct becomes both significant and possible because I am not only studying material produced by others, I am researching through producing material that is, in turn, studied. As such,

I become a detective who is also a suspect, a researcher who places her own compositional performances under painful scrutiny. The three kinds of evidence listed by Katz become analogous to the three ways in which I consider my project work, which I understand in terms of the *cast*.

Every project involves a cast. Etymologically, the cast is 'to throw' or 'a throw'.¹⁶ The verb, to cast, involves selecting and collecting, throwing, shaping and synthesising. The noun, a cast, refers to three kinds of objects: a throw or a gesture, a collection of things or forces and an overall shape, container or mould. Think of the cast that constitutes a play or film: a collection of characters that create a web of relations. In casting for a film, a set of actors are thrown together as particular materials that flesh out the relationships of the overall film. The action of casting is done with a cast: each 'thing' that counts as a cast is something that holds an active multiplicity into a unity. It is a highly processual object. In every project we can distinguish three primary, inseparable components:

1. the particulars of the (inter)actions through which something emerges (materials, processes, techniques, discursive/social field);
2. the effort or striving to do a certain thing (often called intention, motivation or desire)
3. the aesthetic nature of the cast (the dominant, overall quality of action, connection or composition)

The qualities of the cast¹⁷ (or project) are dependent on the relations between these three dimensions: how the various aspects or parameters of the cast come to affect one another.

Methodologically, one doesn't seek the three forms of evidence in a one-by-one manner, as in a list of items that gets ticked off. The process is far more non-linear and entangled. Crucially this involves attention to the qualitative dynamics of relations. Projects become relationships unto themselves: ships or vessels that carry certain relations across variable waters. But this ship, as Foucault would have it, is one whose inside "is merely the fold of the outside, as if a ship where a folding of the sea."¹⁸

16. Online Etymology Dictionary, <http://www.etymonline.com> : c.1230, from O.N. kasta "to throw." The noun sense of "a throw" (c.1300) carried an idea of the form the thing takes after it has been thrown, which led to varied meanings, such as "group of actors in a play" (1631). O.E.D. finds 42 distinct noun meanings and 83 verbal ones, with many sub-definitions. A cast in the eye preserves the older sense of "warp, turn," in which it replaced O.E. weorpan (see warp), and is itself largely superseded now by throw. Still used of fishing line and glances. Castaway first recorded 1526. Cast-iron is 1664.

17. I should additionally note that one sense of the word 'cast,' that of the container through which contents are shaped, is also described by the word 'mould.' When I come to discuss the project, the Animate Casts, I distinguish between the 'cast' and the 'mould' as the object and the container that shaped the object. There was some difficulty with spelling, because the word can be spelt in two ways: 'mold' and 'mould.' I chose 'mould' (other than when quoting) because the inclusion of the 'u' visually stretches out the connection between the first and second parts of the word; it is an open form, seeming to diagram a vessel that you could pour something into. As trivial as this might seem, this small move was part of the larger attention to performing an embodied expression of that which is being said, where there is a collaboration between distinct dimensions of something.

18. Deleuze (1988), p97.

Thesis Composition

Just as this research moves through a diversity of project material, the process of doing it has involved folding into and out of diverse fields of enquiry. While I will maintain that architecture is the primary field of reference, this research significantly involves psychology, philosophy, aesthetics, emergence theory, sociology, interaction and installation art. For the reader, I imagine this might present itself as a very busy accumulation of detail, as the text winds its way through one divergence after another. Certainly, during the process of writing it often felt that there was so much 'stuff' involved that the whole thing was insufferably weighed down with messy and overly packed baggage. While a great deal was discarded along the way, working with a very mixed bag of material was necessary because I was exploring performative patterns that can only become evident when they move, variably, through a variety of situations. This differential iteration (or variational repetition) modulates those patterns of behaviour into a texture or tactile consistency, with the very same gesture through which those patterns and their resonance become evident.

This performative texture ties together an internal diversity. It feels like a very delicate glue and I hope that, for a reader, there are not too many parts that are still heavier than the glue can manage, or too many trajectories that spin the journey so far off track that the consistency breaks down.

Given the importance I afford to the embodied performance of ideas in partnership with other (such as cognitive) articulations, the thesis would lack integrity if I had not attempted to 'do what I say.' This mode of 'holding together' or composing this thesis is also a form of 'argument' integral to one of the main propositions of the thesis: that modes of composition particular to the age of emergence attain coherence through generating resonance between the collaborating dimensions of any event – in this case, between any Act. Each Act involves a jostling of theories, events, issues and images. Each one recalibrates key ideas – such as emergence, aesthetics, style, diagrams, etc – through arranging sets of examples such that their affinities resonate, while their differences shift one another about. It is a process of mutual recalibration or inflection of the similarities and differences between examples and key concepts, both within and across Acts.

Composition becomes performative and pertains to forms only in terms of the dynamics in which they are engaged. In the name of this performative emphasis, I have chosen to refer to the sections that constitute the thesis as 'Acts' rather than 'chapters' where the sub-sections within each Act

become 'scenes.' Images are often used non-descriptively, in the sense that they do not show something directly discussed. Rather, these are intended to resonate with the configurations being assembled through the text.

The thesis finally became organized into three parts, each involving a cluster of 'Acts'. These three parts move through a process of:

1. Mapping and diagramming key issues.
2. Fleshing these out through issues pertaining to architectural composition.
3. Development of aesthetic concepts through project-based research.

As it turns out, these three stages are roughly analogous to the three forms of evidence. Each gives priority to a kind of attention, while folding the others through them in various ways. While the first part is largely theoretical and general, the second part becomes more situated in terms of the engagement with particular examples. The third part adopts a deeper level of situated, embodied attention to processes of composition through projects that I have been involved in. Overall, there is a movement toward increasing lightness and an attention to the sensuous aspects of practicing.

Part 1, *Mapping The Field*, encompassing acts 1 to 3, sets the scene through a diagram of contemporary society and broadly maps out the issues pertaining to emergence, aesthetics and the relations between them and ethics.

Part 2, *Architectural Composition: expression, diagramming and style*, encompassing acts 4 to 7, broadly maps out issues pertaining to architectural composition, processual architecture and the relations between them, going on to flesh out these relations in terms of a range of aesthetic concepts, problems and tools such as style, sensibility, translation and diagrams.

Part 3, *Collective Composition*, encompassing acts 8 to 10, is where the discussion moves the ideas developed in Parts 1 and 2 through a range of collaborative projects undertaken as part of my research. These projects enable the notion of the flexible mould and the affective diagram to be explored in terms of embodiment and states of experience, through which a more thoroughly-embodied understanding of ethico-aesthetic know-how of emergence can be articulated.

Rather than include outlines of each of the ten Acts here, I have placed an outline at the commencement of each in the body of the document.

The conclusion enacts a synthesis of the key issues that arose across the Acts. This bifurcates into two interlaced parts:

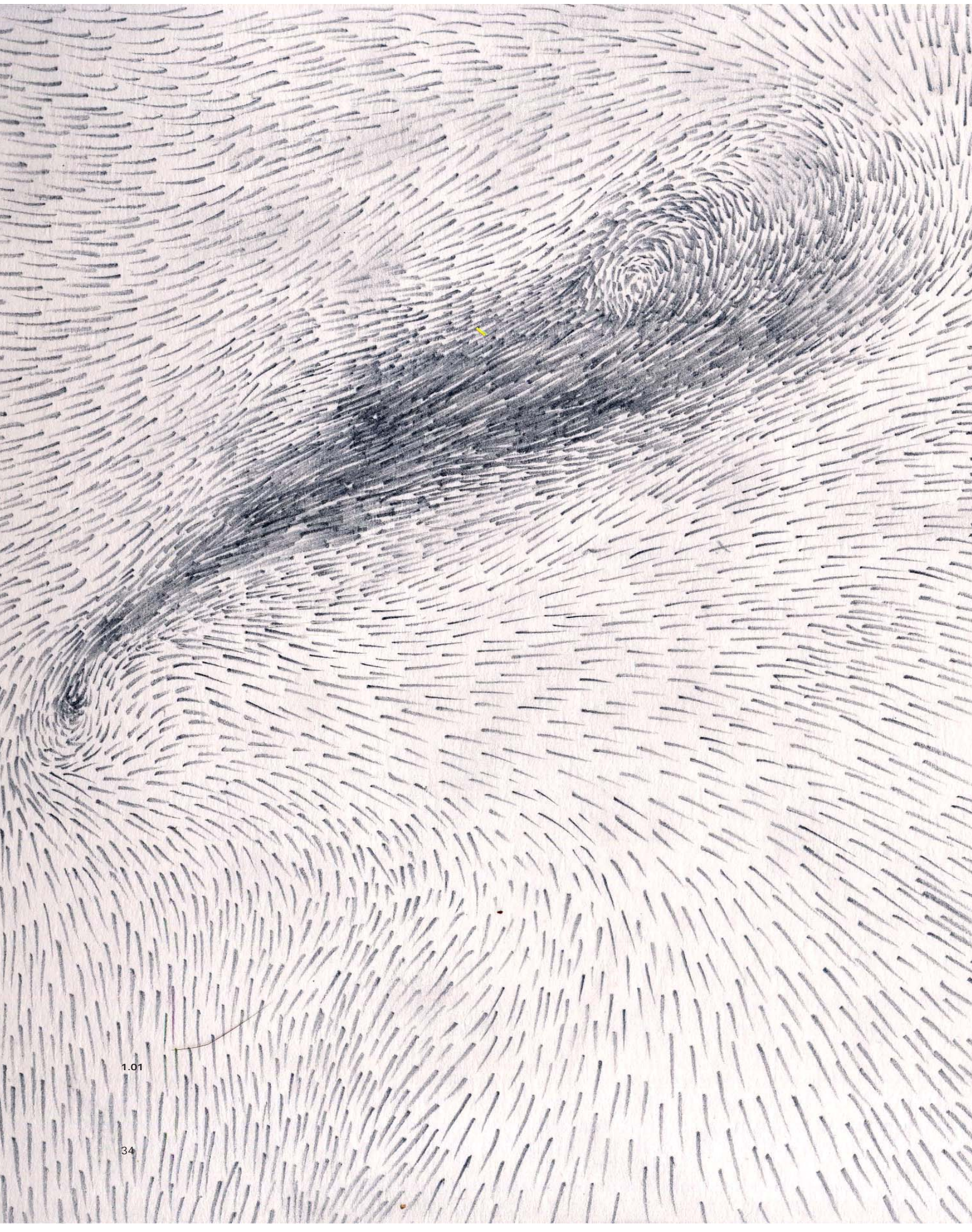
1. The model of composition proposed by this thesis
2. The poise or stance that becomes an integral aspect of this mode of composition: an ethico-aesthetic know-how.

PART ONE

Mapping the Field

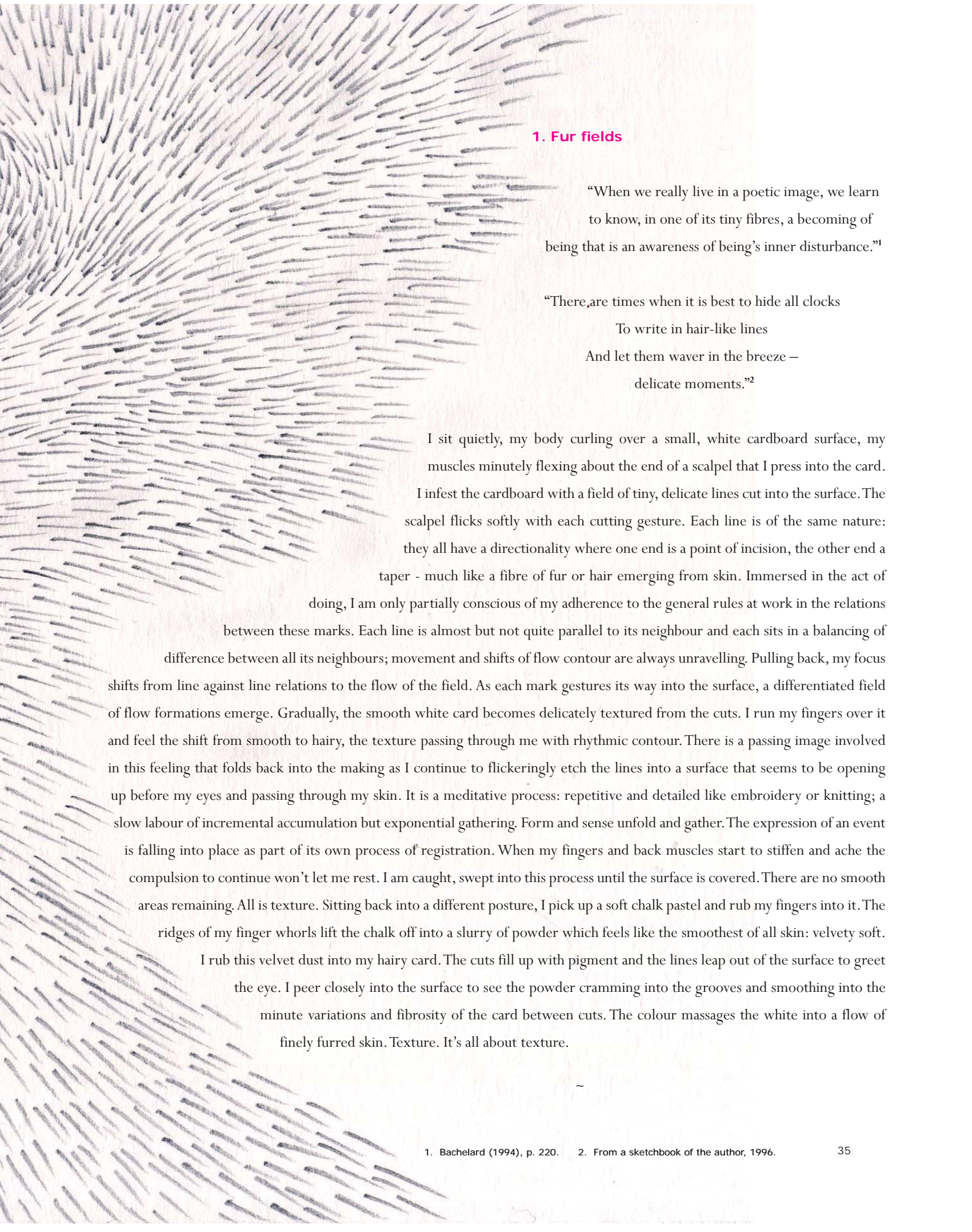
Act 1 . Diagramming Contemporary Space

Act 1 enacts a rendering of the background or atmosphere of the thesis, introducing a diagrammatic drawing and an account of its making. The relations embodied in the drawing are drawn out through a narrative account of the emergent organization of our contemporary situation. This diagram is one that 'haunts' the thesis, acting as something of a backdrop that remains suspended behind the scenes of each act, to eventually be transformed into an active player of the foreground in the very final act.



1.01

34



1. Fur fields

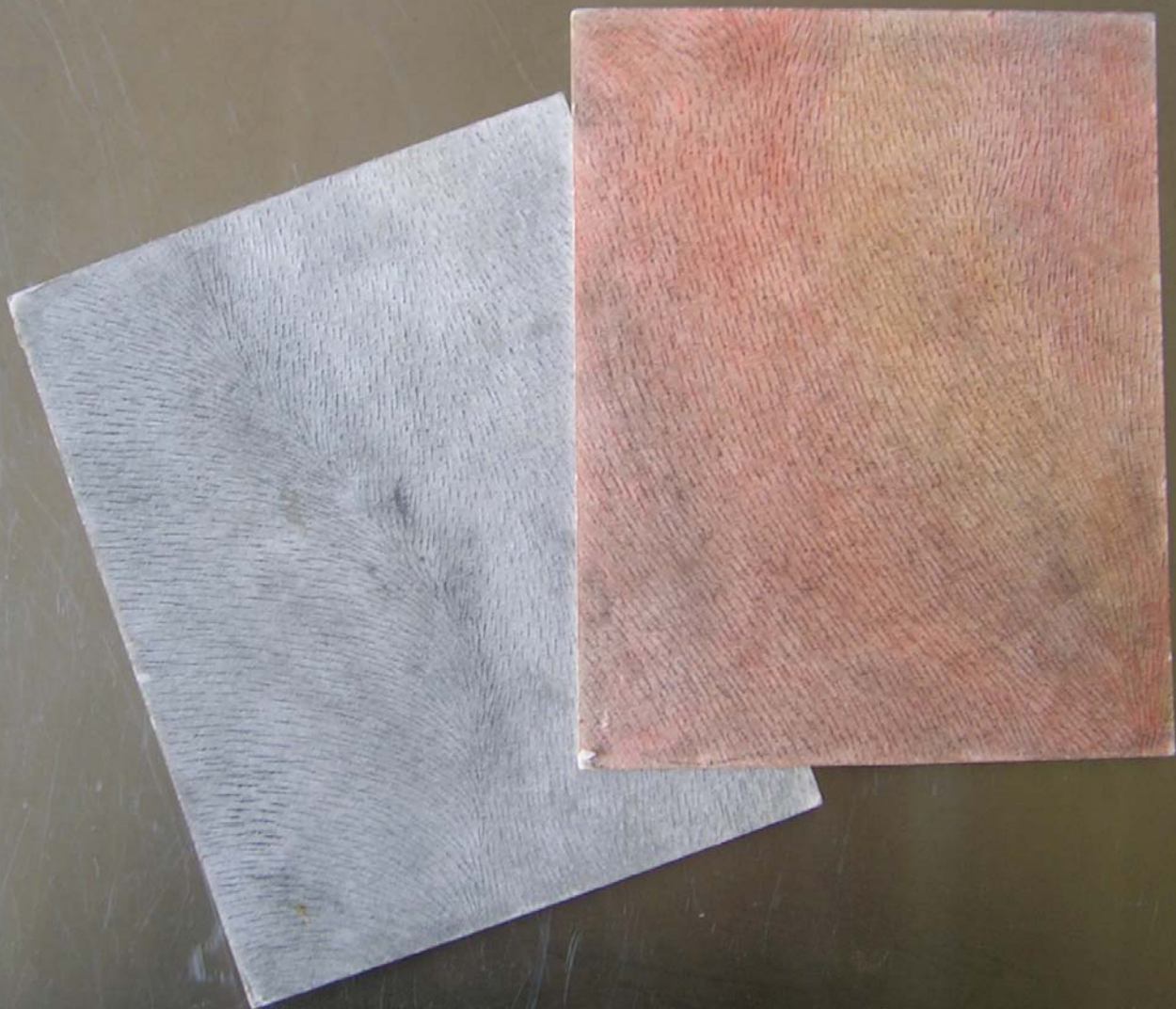
“When we really live in a poetic image, we learn to know, in one of its tiny fibres, a becoming of being that is an awareness of being’s inner disturbance.”¹

“There are times when it is best to hide all clocks
To write in hair-like lines
And let them waver in the breeze –
delicate moments.”²

I sit quietly, my body curling over a small, white cardboard surface, my muscles minutely flexing about the end of a scalpel that I press into the card. I infest the cardboard with a field of tiny, delicate lines cut into the surface. The scalpel flicks softly with each cutting gesture. Each line is of the same nature: they all have a directionality where one end is a point of incision, the other end a taper - much like a fibre of fur or hair emerging from skin. Immersed in the act of doing, I am only partially conscious of my adherence to the general rules at work in the relations between these marks. Each line is almost but not quite parallel to its neighbour and each sits in a balancing of difference between all its neighbours; movement and shifts of flow contour are always unravelling. Pulling back, my focus shifts from line against line relations to the flow of the field. As each mark gestures its way into the surface, a differentiated field of flow formations emerge. Gradually, the smooth white card becomes delicately textured from the cuts. I run my fingers over it and feel the shift from smooth to hairy, the texture passing through me with rhythmic contour. There is a passing image involved in this feeling that folds back into the making as I continue to flickeringly etch the lines into a surface that seems to be opening up before my eyes and passing through my skin. It is a meditative process: repetitive and detailed like embroidery or knitting; a slow labour of incremental accumulation but exponential gathering. Form and sense unfold and gather. The expression of an event is falling into place as part of its own process of registration. When my fingers and back muscles start to stiffen and ache the compulsion to continue won't let me rest. I am caught, swept into this process until the surface is covered. There are no smooth areas remaining. All is texture. Sitting back into a different posture, I pick up a soft chalk pastel and rub my fingers into it. The ridges of my finger whorls lift the chalk off into a slurry of powder which feels like the smoothest of all skin: velvety soft. I rub this velvet dust into my hairy card. The cuts fill up with pigment and the lines leap out of the surface to greet the eye. I peer closely into the surface to see the powder cramming into the grooves and smoothing into the minute variations and fibrosity of the card between cuts. The colour massages the white into a flow of finely furred skin. Texture. It's all about texture.

1. Bachelard (1994), p. 220.

2. From a sketchbook of the author, 1996.



1.02

I made these 'fur field' drawings as cards for friends.³ In retrospect, I can understand them as diagrams that attempt to feel out the multiplicity of relations that constitute any larger, more general relationship formations. This was not clear to me at the time, as I abstractly acted it out. But as I made them into gift cards, they felt like delicate gestures of friendship or relation; a giving of something that was almost fragile in its sensitivity; a laying bare of a field of nerve endings gyrating in an effort to find the words to say. But they would only whisper wordless secrets. Certainly, I found them to be drawings that I could not easily make sense of. They were fields in which I was semi-lost, or at least, in which my capacity to think cognitively was lost. To a significant degree, the research 'gathered here today' in the ceremony of this thesis, has been an effort to think something difficult for thought; to bring cognitive articulation to and through this sense of textured fields that seemed so precise and vague at the same time.

What constitutes the nature of these drawings? They are fields of similar units in flow formations. The flow is a collective activity: a multitude of units that form a differentiated continuity. A mass of individual units are connected through common internal relations and laws of interrelation. Collective movements offer a sense of the tendencies of relations therein.

What became evident through the process of drawing the 'fur fields' was that the patterns or formations of the field could not be entirely pre-planned. If I tried to map out in advance, a general schema for the flow - a swirl here, a ridge there - I wasn't able to match the schematic as the lines gradually covered the surface. The flow seemed to have its own 'push' or its own 'will' through the local relations of the lines. On the other hand, I did always need to operate with a sense of the flow formations that I wanted to tend toward. The process of making these surfaces was, as Brian Massumi puts it, both "involuntary and elicited",⁴ being squeezed out from between and across the global scale (the overall field and its internal differentiations) and the local scale (the particular marks and their relations with neighbouring marks).

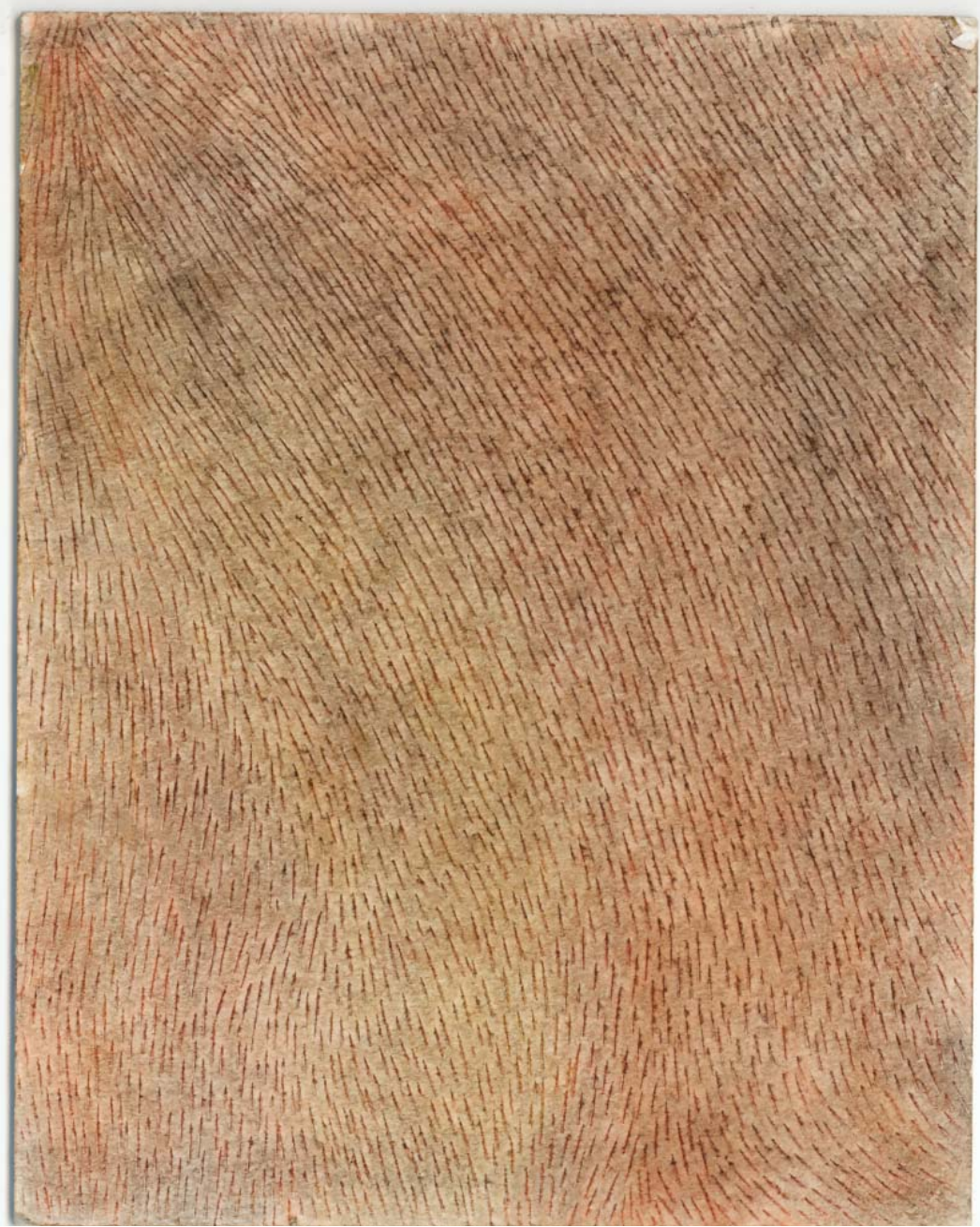
This tension between being carried away by the internal forces of the flow and pre-planning or designing the flow formations describes a defining aspect, as discussed in the next act, of the 'art of emergence'.

3. These drawings did not, however, begin with gift cards. They are a drawing type I first used in developing diagrams for a thesis completed in 1996, titled *Performing in the Blur. The Fluid Visions of DeLoReS*. These diagrams were used to model the primary condition that the thesis set out to articulate: the Deleuzian-Leibnizian 'Fold' in terms of the nomadic conditions of contemporary cultural formations across art/architecture, science and philosophy.

4. Massumi (2002a), p. 189.



1.03



1.04

2. Coming-together: finding composure

I wait for the “best” moment. Yes, I say to myself, there will come a moment when I will be able to gather my forces, have a vision of the Whole, and from this place and this time will emerge The Act. Everyday I wait. I try to egg it on with cigarettes and coffee, or by not smoking and not drinking coffee. I’m waiting for my freedom, waiting for all the conditions to come together that will make possible what I want to do. Time passes. A lot of time passes. I’m waiting for it to stop, for it to gather itself into an image, of myself, of my life, of the world. I’m waiting for the movement to stop and reflect itself back to itself - reflection is the condition of action, isn’t it?

But it turns its face away, dissolves into a hundred tiny details on a cruelly indifferent time-line, dissolves me into a hundred tiny details, pure moving mass. It is true that in trying all of these different postures, I might just crack the code, it might all “come together”. But it is undeniable that this moment will not have been one of discovery but of invention.⁵

5. Melissa McMahon, ‘Beauty: machinic repetition in the age of art’, in Massumi (2002b), p. 3.

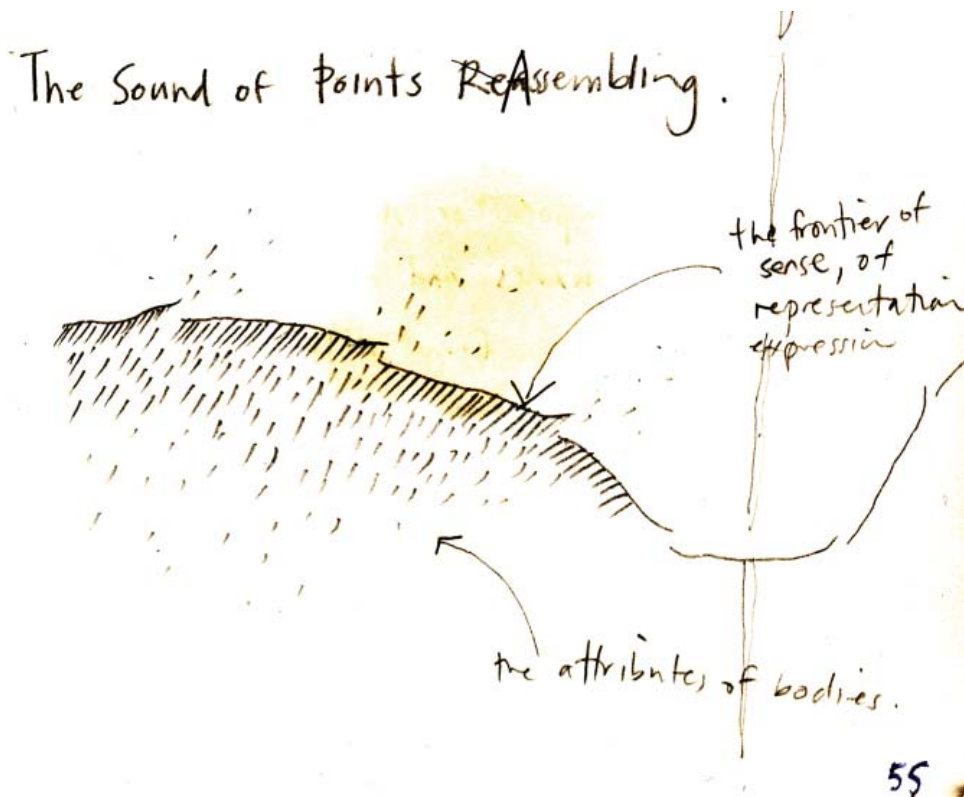
The Act’s of this thesis did not emerge easily; they too were egged on with lots of coffee and cigarettes. A lot of time passed. Every time it all seemed to be ‘coming together’ it would also turn away, dissolving “into a hundred tiny details, pure moving mass”: something like the ‘fur fields’ images that haunted me. I wanted to *do* something with them, make something *of* them and *from* them. I tried finding interesting forms in them, extracting something that could be taken elsewhere. It was hopeless. All I could do is either do them or look at them. And there they would be: useless furry fields made of dumb little lines, saying nothing, going no-where and yet glowing with compulsively personal poignance.

The passage by Melissa McMahon above, which resonated in my struggle with the ‘fields’, is a prologue to an essay titled “Beauty; Machinic repetition in the age of art”. Here, she comments on Walter Benjamin’s suggestion that the modern artwork lacks the ability to provide an *image* or an aesthetic synthesis. The role of such an image is to provide a point of orientation for the individual in relation to community and world. Its absence is an aspect of the distracted nature of the contemporary spectator or ‘mass’ wherein a fragmentation of experience renders the sense of a meaningful whole relatively unattainable. The modern subject finds itself alienated from a mechanism (capitalist society) that both encompasses and ignores: “I distinguish myself from the mechanism; however, ‘it’ does not return the favour.”⁶ This mechanism, ticking along a ‘cruelly indifferent time-line’, disables the ‘here and now’ of aesthetic experience. Rather than

6. Ibid, p. 5.

a durationally extensive 'here and now', time gets caught in 'any-moment-whatsoever'. In other words, every moment becomes a fragment that must struggle for connection to a larger whole or image that locates, orients and identifies the significance of that moment. Alienation and disorientation ensues.

As McMahon comments, the emergence of mechanistic paradigms went hand in hand with the emergence of the modern individual. It also, quite evidently I think, assisted in ushering in the problem of emergence itself. Simply put, this problem lies in a difficulty reconciling two apparently disjunct, but intrinsically connected and equally real occurrences: the nature of the whole and the action of the parts. This is an age-old problem of composition, resting on the way in which it all 'comes together.'



1.05 Pia Ednie-Brown, Diagram from sketch book, October 1996.

3. Figuring the moment: a caricature

3.1 Diagramming the Situation

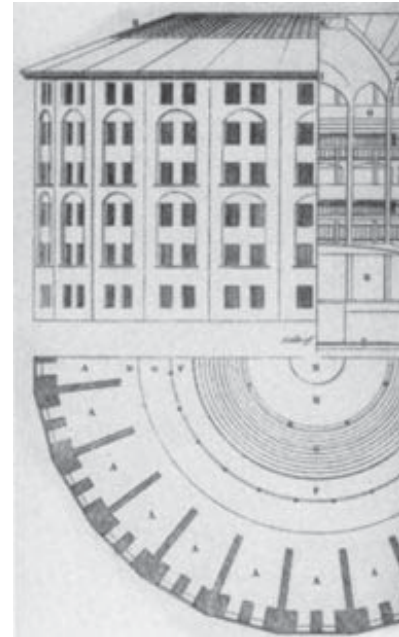
7. Deleuze (1988), p. 35.

“Every society has its diagram(s).”⁷

What is going on in the present is always of pressing concern to us. The present is where past and future coexist and is always the only actual site of our ongoing assessments of life: of what to do next given what has already happened and what might happen in the future (whether 0.5 seconds or 500 years away). The present is an unavoidable actuality that is conditioned by and conditions our ways and means of configuring futures and pasts.

At present, we are in the midst of a broadly felt sense that we have passed through a paradigmatic hinge, that we are now in a new age that can be distinguished, say, from the industrial age. This shift has been given many names. It lives in the move from the ‘modern to the postmodern’, from the ‘age of mechanical reproduction to the digital era’, from ‘human to posthuman’, from ‘disciplinary societies to societies of control’ and from the ‘industrial to the information age’, from ‘Fordism to Post-Fordism’. The namings are part of the jostlings in and between discourses, with all the contestations, cross-referencings and contradictions this might suggest. There is a widespread, multiplied *sense* that a significant paradigmatic change has occurred and/or is well underway: the gossip has spread, even if a bit like Chinese whispers in its multiple forms and interpretations. Each ‘take’ on the paradigm shift offers an image through which to understand it. The multiplication of those images, in the outpourings of discourse, elaborates the idea: saying the same thing in different ways and via different material allows for a fleshing out of the image.

Whatever name is used to describe an era and whatever shape and content is given to outline the nature of associated cultural paradigm, in Deleuzian-Foucauldian terms, we are attempting to articulate a ‘diagram’. For Foucault, as Deleuze puts it, the diagram is “the presentation of the



relations between forces unique to a particular formation".⁸ The diagram is about how things work, abstractly. How formations are configured; how and what relations constitute them. As such "there are as many diagrams as there are social fields in history".⁹

Foucault's book 'Discipline and Punish' presents a detailed exploration of the diagram of disciplinary societies – for which he offers Jeremy Bentham's Panopticon as an exemplary figure. This plan is a model of efficiency: the many cells, arranged around the outer circumference of circular plan, is under surveillance by a centrally placed disciplinary body. A single body can't watch every cell at every moment but prisoners can't see if they are being watched at any one time or not. Unable to know, they

have to assume they are being watched at all times. Here, the disciplinary body-eye – invisibly, efficiently and indifferently – controls bodies, analysing, placing and moulding them. Rigidity, strictness and a stiffness of posture manners disciplinary practice. Armies and the floral arrangements of synchronized swimmers offer clear images of disciplinary functioning. It is a social arrangement in which the actions of bodies are moulded by and into an indifferent, centralised, geometrical, governing system.

In Gilles Deleuze's paper, 'Postscript to Societies of Control' he outlines (with somewhat uncharacteristic clarity) the conditions that can be seen to mark the late twentieth century as a transformation out of the regime of disciplinary societies. His paper is a caricature: a simplified, exaggerated image made to foreground a particular way of perceiving a broad or generalised transformation. He creates quite a clear picture of a shift from one condition to another, pushing into the background his more usual, complex, folding thought. In doing this, the paper offers some

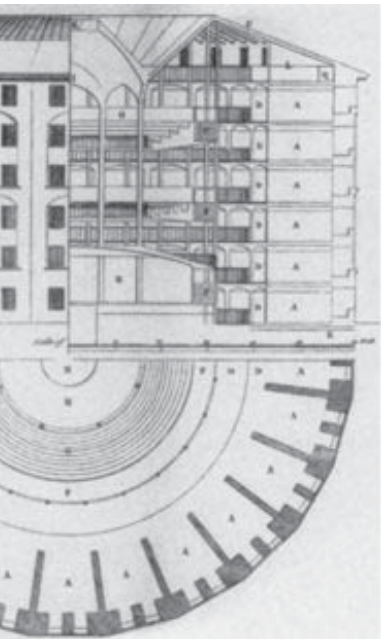
selectively outlined 'images' through which to think about the shift out of disciplinary frameworks.

As he portrays it, in the shift to 'societies of control,' disciplinary confinement breaks out into modulations and undulations, "forming a system of varying geometry whose language is digital."¹⁰ The inspector is now nowhere to be found; being dispersed, multiplied and "moving

8. Ibid, p. 72.

9. Ibid, p. 34.

10. Deleuze (1995), p. 178.



1.06 Jeremy Bentham, Drawing of the Panopticon.



1.07 The Parade Berlin, early 1900s.



1.08 Earthcore rave party.



1.09 Daumier, Two Lawyers (about 1866).

11. Ibid, 180.

12. Ibid, p. 180.

13. One of DeLanda's main points is an insistence on the relative autonomy of scaled levels of emergent phenomena.

among a continuous range of different orbits.”¹¹ With money, gold is no longer the numerical datum and markets float and undulate with a global market and exchange rates. “Surfing”, he says “have taken over from the old sports.”¹² As Deleuze suggests, different “weapons” are required to deal with these conditions, but the nature of these weapons remain under question. Manuel DeLanda’s new book, *A New Philosophy of Society*, fleshes out a Deleuzian ‘assemblage theory’ that offers a framework and, perhaps, conceptual ‘weapons’ or ‘tools’ for the modelling of these conditions.¹³

The aim of the short section to follow is to offer a diagrammatic figure of the contemporary conditions in which I see the explorations of this thesis to be situated. Like Deleuze’s paper, I offer nothing more than a caricature: an exaggerated figure sketched out with what they call ‘artistic licence’. The figure does not come to rest, although it lands in an unsettling suspension that is much like the ‘fur fields’. This can be read as an historical narrative or story that gives a bit of flesh to the diagrammatic figure. Even though this section leaves us with more-or-less the same image that we started with (the fur fields), we will nevertheless have built up an accompanying story. It will have acquired, in other words, some depth with which later probes can be met with responsive resonance.

3.2 Breakdown; the textural orgy of multiplicity

Walter Benjamin's 1936 essay, 'The Work of Art in the Age of Mechanical Reproduction', highlights the relationship between perception and technology within the social field of his era. He suggested that technologies of reproduction were ushering in a new *modus operandi* for the newer forms of (mechanically reproduced) art where their affects are unconsciously absorbed rather than being subjects of critical reflection. He called this 'tactile appropriation'.

In particular, he placed great importance on the role of film in mobilising the masses through tactile appropriation. He makes an analogy between the deepening of apperception¹⁴ provoked by two 19th century technological inventions, film and Freudian theory. Both "isolated and made analyzable things which had heretofore floated along unnoticed in the broad stream of perception."¹⁵ Through the framing of shots and their juxtapositions, the close up, the slow motion etc, that which tended to remain unconsciously absorbed becomes more readily analysed and explored consciously. As film enlarges the minutiae of the everyday and brings the blur of unnoticed actions into focus, the habitual, or the unconsciously enacted, is opened up to analysis.

Benjamin proposes that while film opened a space of micro-analysis, it closed the space of contemplative distance, where art was no longer reflected upon but absorbed by the public through tactile means. Benjamin points to everyday architecture as the cultural form that has always operated in such a way. As cultural participation involves a more emphatic and diverse public mass, it is now the public, which takes up the position of the critic. But this critic, he says, is an absent-minded one. In a state of distraction, the public masters new tasks as matters of habit "under the guidance of tactile appropriation."¹⁶ Tactile appropriation is barely felt; its affects operate largely in the background of consciousness.

14. We may then define Apperception as the movement of two masses of consciousness (Vorstellungsmassen) against each other so as to produce a cognition" William James. Principles of Psychology. ch 19

<http://psychclassics.yorku.ca/James/Principles/>

15. Benjamin(1968), p. 235.

16. Ibid, p. 240.

3.3 Virtuosity and Spatial Experience; from patterns to textures

"Just like the clock maker metaphors of the Enlightenment, or the dialectical logic of the nineteenth century, the emergent worldview belongs to this moment in time, shaping our thought habits and coloring our perception of the world."¹⁷

17. Johnson (2004), p. 66.

18. Bruce Mau argues that Benjamin's notion that mechanical reproduction drains the work of art of its aura has turned out to be the contrary: "the circulated image has not stolen the aura from the original; it has borrowed and reinvested it. Today, the works of the greatest value, both in monetary terms and in auratic density, are precisely those images most reproduced. Mau (2000), p81. While this is an astute observation, I would argue that the aura referred to by Mau is not quite the same as Benjamin's. In the absence of the original, the force of the auratic power has no locatable source and is quite radically distributed. The capacity for the aura to provide a point of orientation for the individual in relation to community and world takes on quite a different hue.

19. Virno (2004), p. 90.

Conditions have changed since 1936. The configurations Benjamin outlines in his essay have become both intensified and transformed.¹⁸ The public mass is larger, more dense, more dispersed and more media soaked. Paulo Virno discusses related aspects of contemporaneity in relation to the 'virtuoso'. Virtuosoos "are those who produce something which is not distinguishable, nor even separable, from the act of production itself."¹⁹ He put forward 'the activity of the speaker' as a prime example because that which is spoken becomes inseparable from the way in which it is said. He delineates two characteristics which define the nature of the virtuoso. The first is lack of distinguishable end product and the second is the necessity of an audience, being an activity that requires the presence of others. Conflating virtuosity and contemporary or 'Post-Fordist' tendencies of production means we are in an age that foregrounds two kinds of activity: the *performative* and the intrinsically *collective constitution* of individual utterance.

Theories of emergence offer related ways of framing the operations of these contemporary tendencies. Emergence, often discussed as a 'bottom-up' phenomenon, involves no master plan implemented from above or from some centre of surveillance. Rather, a multitude of local, distributed interactions, each of which has no (apparent) sense of any overall, larger plan, provokes sophisticated organisational complexes. The classic examples are ants and cellular automata: where a mass of individual 'agents' (programmed 'cells' or ants) operate within simple behavioural patterns or rules that together self-organise into patterns, or the intelligent 'organism' that is an ant colony.

Let's think about the field of our cultural present. The broad socio-economic atmosphere in which we are situated seems to increasingly display *emergent behaviour*: our systems becoming responsive, decentralised, self-perpetuating networks demonstrating life-like activity to which no simple cause and effect relations can be attributed. Think of the stock market, reality TV, the intertwinement of media, politics and the multitude, terrorism, climate change and mobile phone swarming. These very contemporary situations all highlight virtuosity within their modes of engagement and participation. Concurrently, they all offer highly emergent outcomes. Emergent phenomena are, in a sense, the *elusive products* of

a virtuosic event or culture, but as a 'product' it is inseparable from the multiplicity that creates it and pervasive in that it modulates that very multiplicity. The moment it emerges out of a field it curls back in.

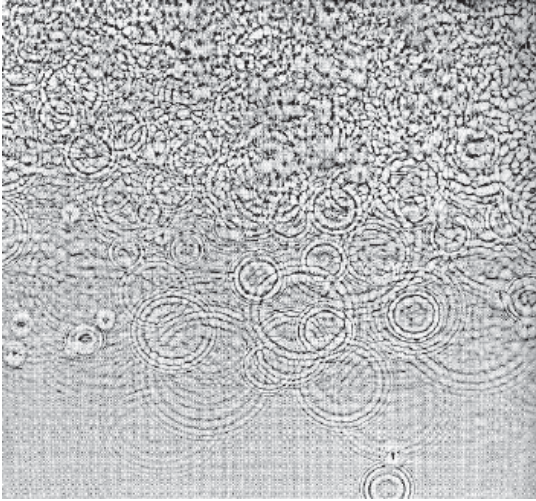
This is collective or swarm intelligence. It is also a virtuosic intelligence, which many find difficult to make sense of – or discern as 'sensible' – dismissing it as some kind of stupidity. The integrity and sanctity of ideologically defined, critical and reflective stances are characteristically frustrated by these forms of organization. The compulsive 'positionings' that structure these modes of engagement are destabilised by seemingly irrational and 'dumb' swarmings, perhaps exemplified by the uncontrollable volatility of the stock market and resonating with the commonly dismissive attitudes to Reality TV, echoing responses to early cinema.

The success of, for instance, the recent phenomena Big Brother is not only due to its innovative combination of liveness, interactivity and everyday familiarity, it produces *a kind of diagram of our contemporary modes of participation*. It contracts and intensifies with diagrammatic poignance. The public becomes a more lively presence: a textured mass in the background whose directional sways register amidst the swing of events. Big Brother involves feedback, operating much like democratic politics and the phenomena of polling. But attracting the votes is certainly not an issue of ideological persuasion. Similarly, political leadership is not primarily about ideological integrity, it is an art of opportunistic timing and tweaking: of probability based judgements regarding the timing and tone of actions that might swing and sway public sentiment. Events *emerge* out of a complex dynamic system of interactions between media, public sentiment and political figures, if we can even properly distinguish these three nodes.

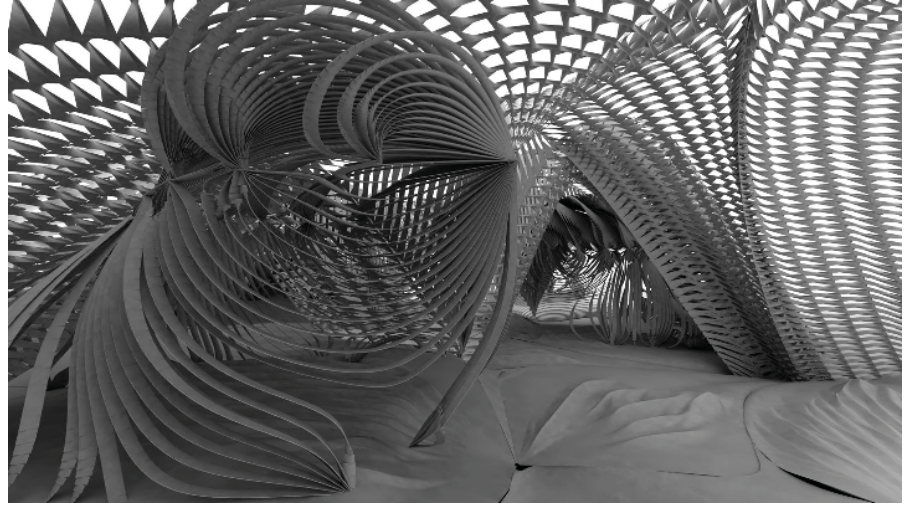
These feedback systems of dynamic, emergent tendency point to the nature of the diagram being sought here. If we turn to the drawn diagrams all around us, these have been dominated by nodes and links: bubble diagrams, flow charts and link maps being key examples. But, something



1.10 Gérard Fromanger, Existe (1976).



1.11 Adam Fuss, 'Untitled' (1988).



1.12 Alisa Andrasek (*biothing*), Pavillion design (2007).

20. For an account of the struggle to usefully diagram socio-cultural conditions in the context of 'creative industries' policy making, see: Ednie-Brown (2001a).

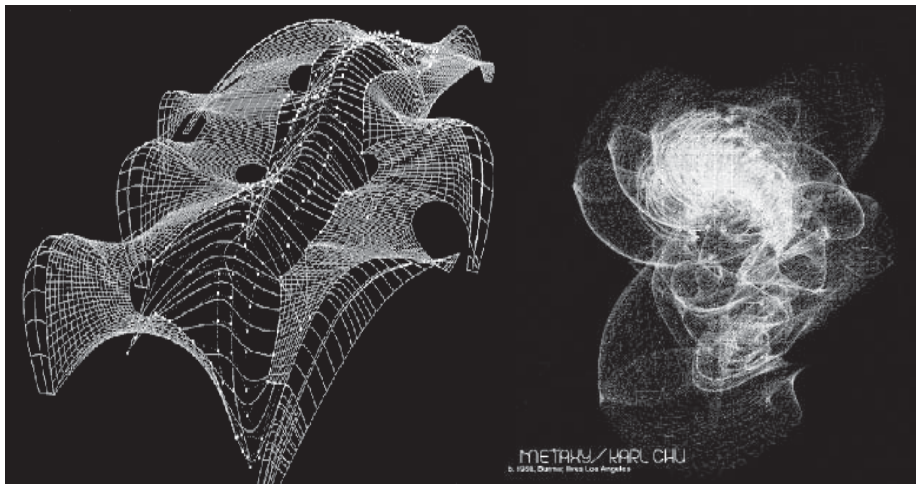
has been happening there: our nodal diagrams are becoming so intense, with increasingly micro-levels of analysis and the prolific linking and node making, that these images are starting to become masses and differentiated fields rather than singular zones with links between them.

In the breakdown of disciplinary categorisation, we face a *texture* that is difficult to compress or contract into clear diagrams. Our modes of organisation are, in the broadest sense, being reconfigured along with perception, implicating our sense of space and the abstract. This has not been without significant struggle and confusion.²⁰

The patterned routines of disciplinarity can be seen to have been inflected into textured fields of emergence: from orderly lists to masses of erratic links, from synchronised swimming to surfing, from a world measured against standards and horizons to one balancing on the multiple curves of an ever shifting ground. This shift of pattern to texture becomes my way of imagining the diagrammatic shift from disciplinary societies to the age of emergence, one that becomes played out in numerous guises in the acts to come.

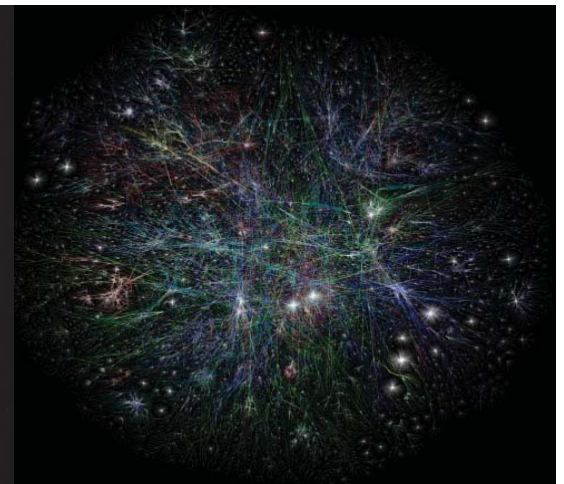
Texture can be distinguished from pattern in important ways. Pattern implies rigidity and repetition within which difference is suppressed or avoided whereas the characteristics of texture are dependent upon the specific differences within repetitions or refrains.

Pattern implies repetition that suppresses variation. Texture implies repetition *through* variation.



1.13 Cecil Balmond, digital model.

1.14 Karl Chu, Xphylum (1998).



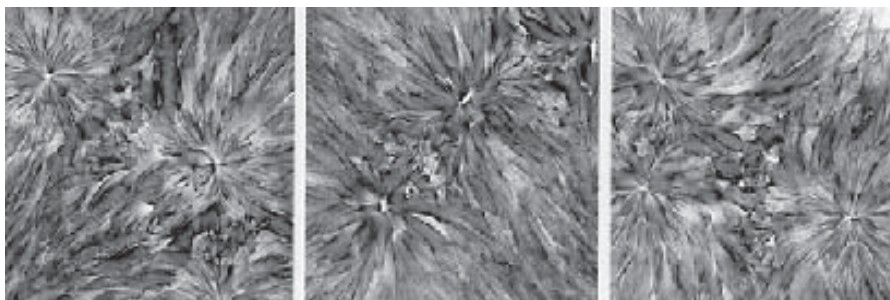
1.15 Mapping of internet, The Opte Project, Date: Nov 23 2003.

The fur fields were a way of 'figuring' the invisible relations of that texture. If space is the relations we live, here was my diagram of lived space. William James describes how this works:

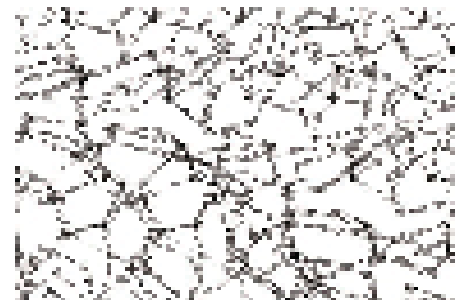
"space-relations... are nothing but sensations of particular lines, particular angles, particular forms of transition, or (in the case of a distinct more) of particular outstanding portions of space after two figures have been superposed. These relation-sensations may actually be produced as such, as when a geometer draws new lines across a figure with his pencil to demonstrate the relations of its parts, or they may be ideal representations of lines, not really drawn. But in either case their entrance into the mind is equivalent to a more detailed subdivision, cognizance, and measurement of the space considered. The bringing of sub-divisions to consciousness constitutes, then, the entire process by which we pass from our first vague feeling of a total vastness to a cognition of the vastness in detail."²¹



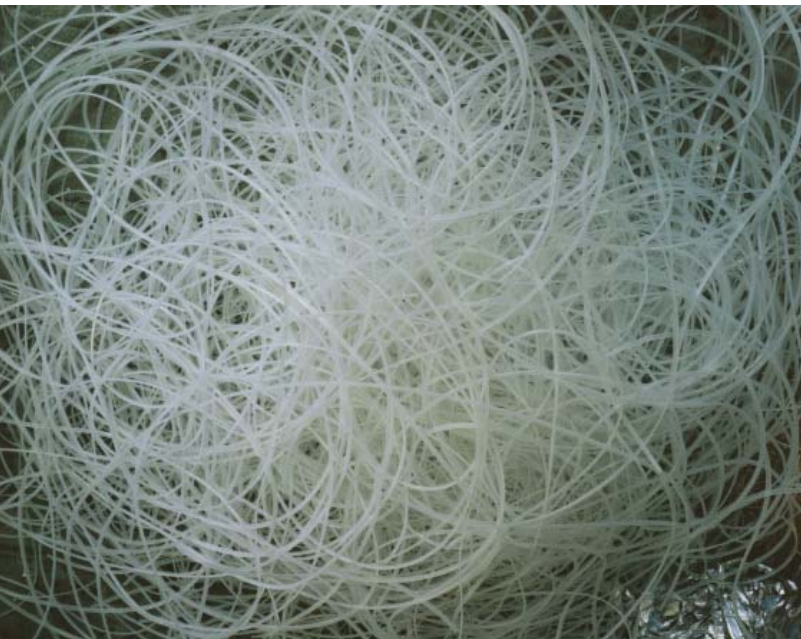
1.16 Diagram of the 'Knowledge Nation', Australian Labour party's education policy, 2001.



1.17 Casea Reas, 'Triptych of images from Process 6 (software)' (2005).



1.18 Alisa Andrasek (biothing), bone assemblage from *The Invisibles* animation (2003).



1.19 Xin Danwen, 'disCONNECTION, A_06 from the series 2002-3.



1.20 Xin Danwen, 'disCONNECTION, A_07 from the series 2002-3.



4. Space is the relations we live

A common understanding of space is an undifferentiated field that passively lies between things. This is a habit of thought, feeling and expression. This habit is a very silent, powerfully affective architectural formation. It moulds our perception and experience of the world and modulates our expressions therein. In building up such armatures of belief and action, we solidify the ground of our worldly experience. Mostly, we let the ground be background, acting out our lives in ways that this foundation makes possible. Sometimes, we loose our footing, become destabilised and maybe fall. The ground looms forward as both lost and re-found; at the same time that its surety is in question, its powerful actuality is realised. It is real-ised or intensely real because it leaps into the foreground, posing questions and problems as it does so. What was actual becomes virtual and vice-versa: the real is in a tumble or turbulence of reconfiguration. Things are not found; they emerge.

Understanding our selves as collectively defined, both from within and from without, tends to go hand in hand with a sense of space as full, active and *generated by lived relations themselves*. If space is the relations we live (rather than live *in*), then we affect it through the way that we live. Or in other words, the nature of space unfolds from the nature of our actions, and vice versa. Spatiality is an ethically loaded issue.

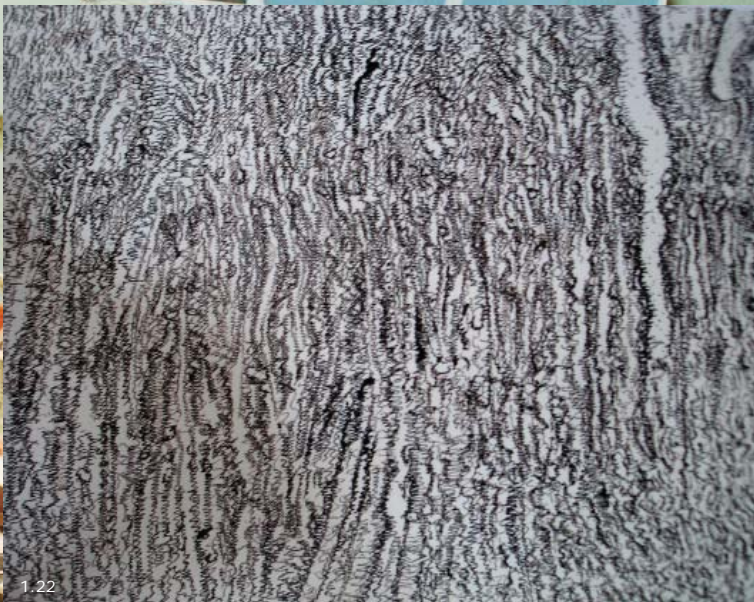
Technologies – our machines, our concepts, our systems and processes, our artefacts – are no mere adjunct to the processes that constitute living, they literally become part of and affect those processes. Industrial technology, digital technology and bio-technology, for instance, have all altered the ways in which we and other creatures live. If space is the relations we live, it is now lived differently.

When space is assumed homogenous and neutral (or, in other words, nothing in itself) relations between things located in its emptiness seem spatially unbothered. But as soon as you put a few things in space and start to fill that emptiness with multiple relations, it starts to feel quite busy fairly quickly. One relation affects another and they start to blur into more of a textured field than a set of discrete clarifications. It gets hard to separate things from relations and space from either. Once space gets relationally busy, it bustles with textured movement, even if nothing actually gets up and moves. It becomes a field of flux and change. Stillness, as Leibniz suggested, is only an infinitesimally small movement. Everything moves, always. If architecture is about static immobility, then it is not of this world. In this world, process is fundamental and rather than changeless stabilities, continual variation becomes the datum. Space is plastic, actively and affectively. We could argue that this has always been the case, but it seems to be more powerfully true of contemporary space, or the sense of space that loosely defines the nature of our present era.

Our sense of space, no matter how implicitly understood this may remain, is at the core of architectural production and affect. Architectural production that embraces the ethical-aesthetic know-how of emergence involves a sense of space that operates between the catastrophic breakdown and the stable ground.



1.21 Photograph of Francis Bacon's studio.

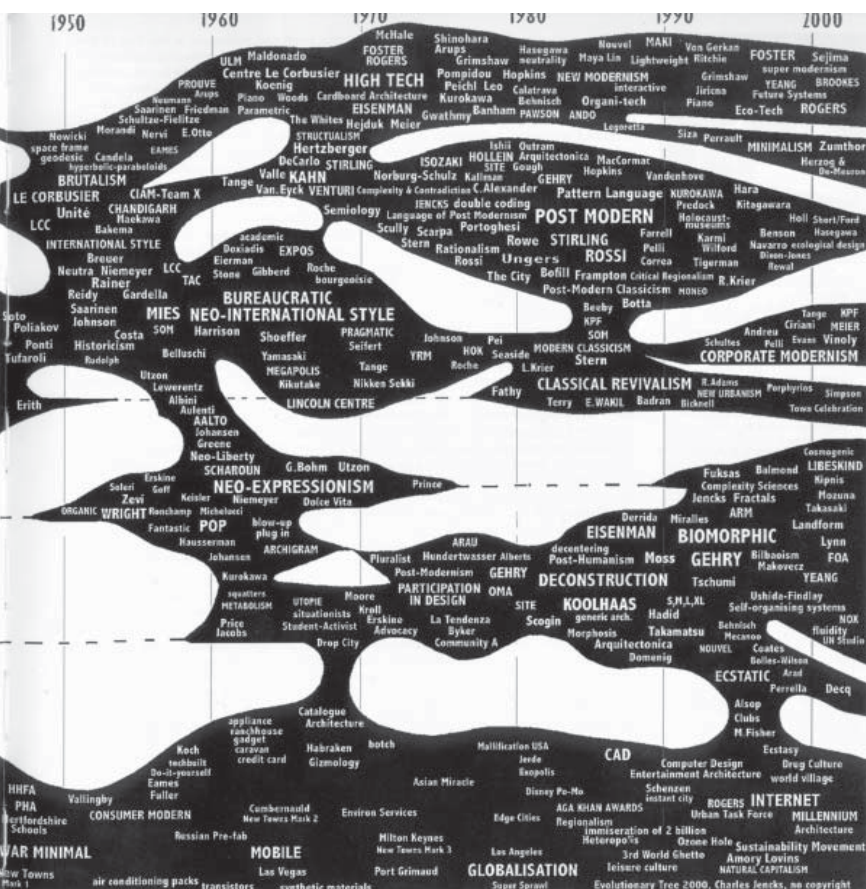


1.22



1.23

1.22 Henry Michaux, Mescalín drawing (1955).
1.23 Tony Sherman, 'Lady Macbeth' (1994-5). Published in Moos (1996).



1.24 Charles Jencks, 'The Century is Over, Evolutionary Tree of 20th century architecture'

We formalise our thinking-feeling-expressing relations through the objects we make: they embody our tendencies and orientations at the same time that they orient us. Histories of artefacts and the flows of stylistic formations lie in our wake, in our periphery, sometimes transpositionally up ahead, in the rear and over to the side. These flows of style-formations map out a differentiated ground of expression that is always reforming, a condition given an apt formal articulation in Charles Jencks' diagrams (fig 1.24) and more recently in Jeffrey Kipnis's diagrams for the Wexner Centre for the Arts exhibition he organised, *Mood River* (fig 1.25, 26).

We orient ourselves in our particular conditions through these different expressions. Those expressions widely agreed to be 'contemporary' are recognised as such because the relations they embody resonate with the compositional texture of our sense of space: with the way that things seem to be 'holding together' and moving along. Artefacts and events are felt to be exemplary of a contemporary condition when they resonate with something we often bundle up in the term



1.25, 26 Jeffrey Kipnis, diagrams from Mood River exhibition catalogue.

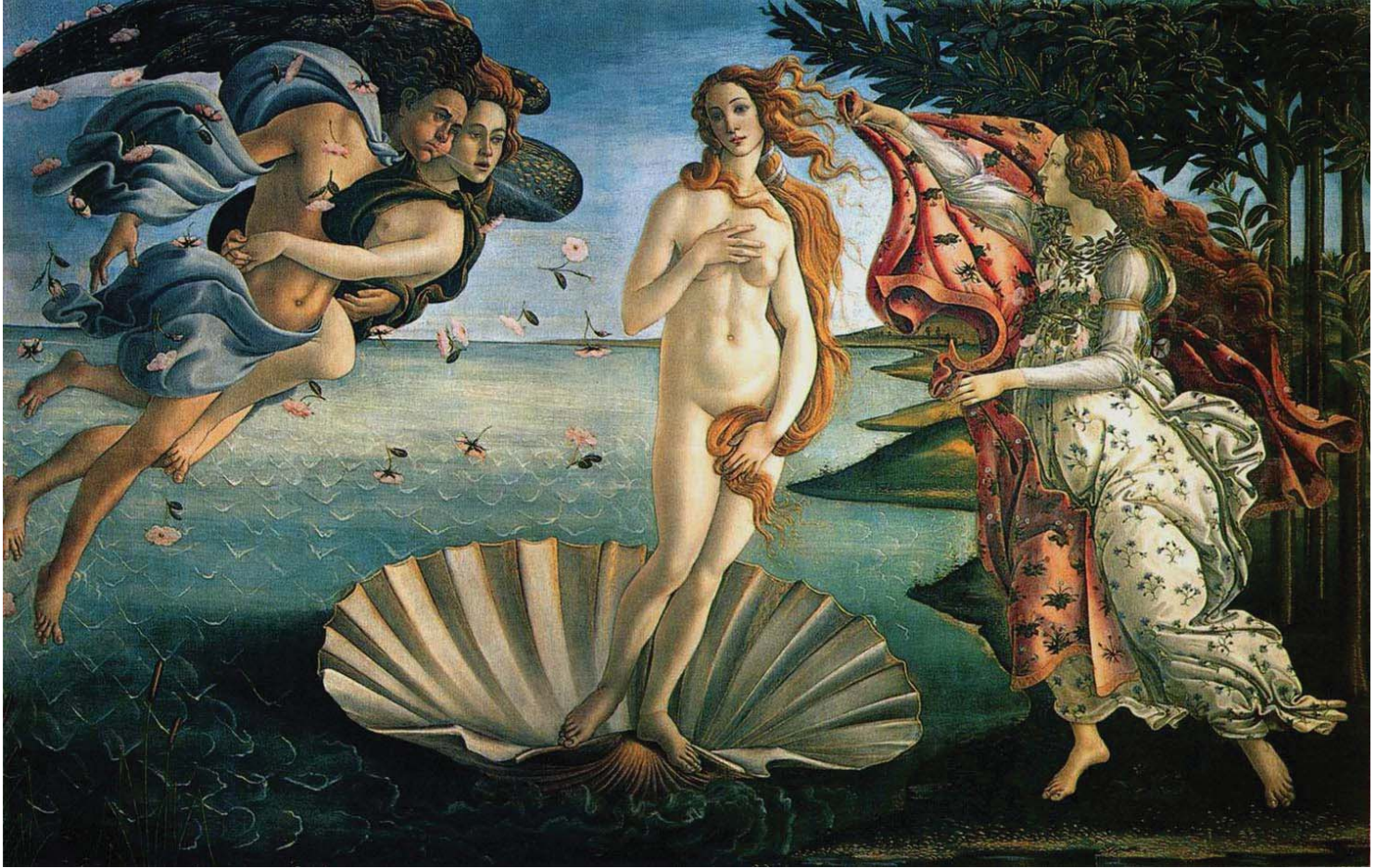
'atmosphere'. In itself, atmosphere is invisible, but this invisibility is in-the-visible; the visible world presents us with signs of performative tendencies. New expressions can make knots in the field of expression in such a way that the nature of that expression, here and now, personally and culturally, finds itself *making* sense rather than answering to common (or ready-made) sense.

When such knots reconfigure or significantly inflect the field of common sense, they 'stand out' like a sore thumb or a fluorescence, provoking us to collectively consider its undeniable entrance into the scene of the quietly familiar. That which 'stands out' is also something that we cannot simply fit into the habitual armatures of action. They become surrounded by an intensive chatter through which we strive to turn the agitations of potential into something more manageable. A great deal is said not only through the content of these utterances, but also through the manner and tone of the conversations, the rhythms and pulses of interactions, the feedback loops: the dance of discourse. Performative dimensions tell us a great deal about the implicit pathways through which sense emerges from our efforts.

A suggestion of this thesis is that emergence offers a model of creative genesis and practice that has a poignant resonance in contemporary socio-political conditions. As late capitalism faces its own fragilities and uncontrollable powers, contemporary socio-political formations become more expressly emergent than in other historical eras. No contemporary formation is an uncontested or unproblematic issue. The contestations, battles, tensions etc are indispensable to that very poignancy. The 'contemporary' claims the power of collective ground, territorial disputes are implicit and unravel from there. Despite and because of the struggle and vibrancy of negotiation, we tend to collectively understand that which matters at-the-moment: that which counts as a highly 'contemporary' problem or formation. The conditions of capitalism encourage that flow to be always under active, collective redefinition. Political tides turn, fashions bend, shift and twist, meaning rises and falls. No one is entirely in control, everything is always at risk. As certain formations rise into a dominance of power, they can only do so through a certain elasticity, poised to adapt at every moment.

ACT 2. Models of Emergence

Act 2 introduces a brief history of emergence as a construct that arose in philosophy, to be more recently developed through the sciences. I argue that the tensions internal to the scientifically oriented developments of emergence theory are raised by the fact that it confronts intrinsically aesthetic issues that the reductive conventions of science are ill equipped to deal with. On the other hand, I suggest that it also raises the opportunity for aesthetics to gather a more detailed understanding of its abstract operations. In laying the ground for this to be explored further in the next act, I work through two key ideas. The first is John Holland's suggestion that the key to the mysteries of emergence lies in a model of creative process, but that such a model is yet to be developed. The second is the relationship of 'the art of emergence' to Francisco Varela's notion of 'ethical expertise' or 'know-how'.



2.01 Botticelli Sandro, 'The Birth of Venus' (1485-86).

1. Emergence and the limits of scientific explanation

The question, 'what is Emergence?,' has historically given rise to a polyphony of vague answers. It is a notion that has snowballed into layers of white noise and froth. Joseph Earley claims that "the word 'emergence' was first used in English during the sixteenth century — as a fancy and learned way to refer to the process of coming up out of the sea."¹ This remains an amusingly apt kernel for the subsequent development of the term, which became a name for something that eludes causal explanation — or whose process of coming-into-being is untrackable.

Emergent phenomena are properties that seem to exist at a different level to the interactions that generate them. They are properties of a whole that seem magically disconnected from the properties of its parts. Not only are they mysterious, they are as ubiquitous as Life itself, that being the most powerfully mysterious of emergent phenomena.

My attempt to survey the literature on emergence opened up an overwhelmingly vast terrain of publications, expansively cast across a broad set of discursive fields, such as philosophy, computer science, artificial life, cognitive science, neuroscience, consciousness studies, developmental psychology, psychoanalysis and group therapy, art, economics, organizational management and planning, sociology, epidemiology, agriculture, and ecology, biology and chemistry. Obviously, the questions that arise in different fields around the problem of emergence vary in nature. For creative practices such as art and architecture, emergence generally appears as an issue in relation to works that involve digital computation and interactivity. Inquiries are commonly concerned with the invention of generative and/or interactive systems (or designing a design system rather than a design product).

From its earliest conjectures, the issue of emergence has been tied up with the battles between theories of evolution and creationism; the world as machine and the existence of God. It is a construct that seeks to

1. Earley, Joseph. (2002). Earley cites his source as: Brown, L., ed., *The New Shorter Oxford English Dictionary* (Clarendon, Oxford, 1993).

explain how novelty arises, whether that be new species of life, innovative theories or technical objects. As such, emergence intrinsically concerns processuality and how things are *created* or *generated* and has significant relevance to problems of creative process.

For the sciences, there is a palpable anxiety concerning the fact that emergence refers to something that can't be fully explained. There is no scientific definition of emergence. However, there are well-understood descriptions. Steven Johnson's popular book, *Emergence*, first published in 2001, summarises emergence as the 'movement from low-level rules to higher-level sophistication'. One of the more cited publications on the subject, 'Emergence. From Chaos to Order' (1998), is by John Holland, a professor of psychology, electrical engineering and computer science who is promoted as 'the father of genetic algorithms'.² Here he similarly describes the hallmark of emergence as "much coming from little."⁴ But these are provisional descriptions strapped around an elusive problem and as Holland goes on to admit: "It is unlikely that a topic as complicated as emergence will submit weakly to a concise definition, and I have no such definition to offer".³ At the end of his book, he outlines a series of obstacles standing in the way of a better understanding of emergence. But before he launches into this list he writes:

2. On back cover of Holland (1999).

3. Ibid, p. 3.

"There is one larger issue, however, that I will avoid. It may be that the parts of the universe that we can understand in a scientific sense – the parts of the universe that we describe via laws (axioms, equations) – constitute a small fragment of the whole. If that is so, then there may be aspects of emergence that we cannot understand scientifically."⁴

4. Ibid, p. 231.

5. Bedau (2002), p. 5.

As Mark Bedau writes: 'Strong emergence starts where scientific explanation ends.'⁵ How might these scientifically unattainable aspects be understood? Aesthetically?

Clearly, emergence propels the sciences into an internal conflict. The 'nature' of the whole is a question that philosophy and aesthetics are more familiar with. Science is more or less concerned with explaining the way things work rather than the nature of that way of working. The nature of that mysterious 'product' of emergence problematically glows in fields ill-equipped with adequate tools of analysis.

2. The emergence of emergentism

Brian McLaughlin's often cited history of the modern emergentist tradition reaches back to John Stuart Mill's 'System of Logic' of 1843 and then through Alexander Bain's 'Logic' of 1870 before George Henry Lewes introduced the term 'emergent' as a philosophical concept in 1875 in his 'Problems of Life and Mind'. That which Lewes meant by 'emergent' was what Mills called a 'heteropathic effect', where the collocation of causes gives rise to an effect that cannot be reduced to a sum of those causes. Lewes work was principally a study of psychology and was based in a conjunction of mind and body, leading to his *The Physical Basis of Mind* in 1877. This gave impetus to a field of philosophical enquiry in the late 19th and early 20th century, named the 'British Emergentists' by Mclaughlin.⁶ This peaked in the 1920's, in a movement known as emergent evolutionism.⁷

6. McLaughlin (1992).

7. Goldstein (1999), p. 53.

Emergentism targetted a middle ground between the mechanists and the vitalists, in a non-reductive materialism.

The publications usually cited as central to this 1920s eruption of emergentism are Samuel Alexander's *Space, Time and Diety* (1920), Roy Wood Cellars's *Evolutionary Naturalism* (1922), Conway Lloyd Morgan's *Emergent Evolution* (1923) and Charles Dunbar Broad's *The Mind and its Place in Nature* (1925).

Emergentism is a subset of process philosophy, which stretches out over a more expanded philosophical history. Nicholas Rescher, in a survey of process philosophy,⁸ lists the leading proponents as Heracleitus, Gottfried Leibniz, Henri Bergson, C. S. Peirce and William James, moving on to involve Alfred North Whitehead, Samuel Alexander and Conroy Lloyd Morgan. But we can further extend this through Neitzsche, Gilbert Simondon, Gilles Deleuze, Felix Guattari and on to Brian Massumi, Isabelle Stengers and others. Arran Gare (2002) traces connections between Lloyd Morgan, Alexander and Whitehead, pointing out that the process philosophy of the later was an effort to develop a theory of emergence, then traced back to Gottfried Leibniz and Henri Bergson, both of whom are significant influences on the philosophy of Gilles Deleuze. Deleuze's work, especially his book on Leibniz, *The Fold*, played a central role in Greg Lynn's later theoretical underpinnings of his publications *The Fold in Architecture* and *Animate Form* as well as Bernard Cache's related work in *Earth Moves* (1995). The *fold* is a non-reductive materialist concept of immediate affinity with emergentism, relating to the fold of body and mind or soul; to the intertwinement of thinking and feeling; of the actual and the virtual. In picking up on these few threads of immediate connection, we can see that 'emergentism', as part of process philosophy, is weaved into the threads of contemporary architectural discourse.

8. Rescher (2001).

9. Giedion (1997), p. vi.

10. Ibid, p. 20.

11. Massumi (2002a), p. xxiv. Here Massumi is describing Deleuze and Guattari's 'expressionism'.

Another thread seems worth mentioning here in passing. While I have been unable to find any evidence of direct association, one might speculate on the influence of Alexander's *Space, Time and Deity* on Siegfried Giedion's *Space, Time and Architecture: The Growth of a New Tradition* from 1941. The deep relation of emergentism to debates on the processual nature of life resonates with Giedion's approach to the historical task. His foreward to the first edition of this book gives italic emphasis to the line: "History is not a compilation of Facts, but an insight into a moving process of life."⁹ Similarly, he claims that an architecture, once it appears, "constitutes an organism in itself, with its own character and its own continuing life."¹⁰ Furthermore, both publications give significant emphasis to notions of space-time and motion. Further research into this connection might cast new light on the nuances of Giedion's incalculably influence on the development of architectural discourse. Giedion was a student of Heinrich Wölfflin, whose work will be discussed in Act 5.

A more extensive study on the mutual influences would, no doubt, unravel a complex and extensive weave. Here, I am not attempting to trace such a history but to outline the emphasis of this philosophical arena. Process philosophy gives ontological priority to processes, forces, and change rather than objects, agents and stasis as the basic substance of the world. This means that it focusses on ontogenesis rather than ontology per se: becoming rather than being. The ontogenetic aspect of process philosophy makes it "a philosophy of the event concerned directly with becoming."¹¹

In such a framework, there are no entirely stable categories. All categories of distinction, such as body, mind, objective, subjective, actual, virtual etc, become artefacts that emerge out of a more primary level of reality. At the basis of all process philosophy is a very unstable or always shifting ground of change or perpetual emergence.

3. What sort of emergent whole?

"Notions such as emergence and complexity are nothing apart from the intentions of those who use them."¹² Isabelle Stengers

12. Stengers (1997), p. 12.

"What makes the models and their use potentially dangerous is the strong claim that the business of science is to explain away what is only subjective opinion and illusion...How are we to avoid taking a simulation as scientific theory, explaining away what the model had no need to take into account"¹³ Isabelle Stengers

13. Stengers (2004), p. 98.

Just as defining emergence has not been straight forward, the limits of what counts as emergent is a contested question. Some say that everything, to some degree, is emergent because emergence is simply indicative of the way of nature. Others say that authentic emergence is rare and particular. Initially, in Lewes early use of the term he distinguished between 'resultant' and 'emergent'. Mark Bedau also makes this distinction, then going on to divide all that fits into the emergent category into three types of emergence: nominal, weak and strong.¹⁴

14. Emergence is also commonly categorised into 'diachronic' and 'synchronic'.

Nominal emergence becomes a way of describing the qualitative properties of virtually all phenomena for which a common or scientific explanation is available. For example, the properties of water are a nominally emergent phenomenon where individual molecules of a cup of water do not share the properties of water (their collective wholeness), such as fluidity and transparency.

Strong emergence refers to the more extreme manifestations of emergence, with related names in the literature being 'ontological', 'radical' and 'non-reducible' emergence. This is the most confounding of emergent phenomena in that they are both utterly irreducible to causes and exhibit irreducible macro-causal powers, where the macro folds back to affect the micro in what is called 'downward causation'.¹⁵ This contravenes or at least complicates the common definition of emergence as expressed, for instance, by Johnson as "movement from low-level rules to higher-level sophistication."¹⁶ In other words, a strong emergent phenomenon turns back to affect the assemblage from which it arose, thereby also affecting itself. There is, as Bedau puts it, "something viciously circular about downward causation."¹⁷ Not only are its macro properties autonomous, its entire being or system attains autonomy. Bedau locates most of the contemporary interest in strong emergence in "concerns to account for those aspects of mental life like the qualitative aspects of consciousness that most resist reductionistic analysis."¹⁸ This is also a principle interest in the work of Francisco Varela and Humberto Maturana who cast this

15. Bedau (2002), p. 4.

16. Johnson (2004), p. 18.

17. Bedau (2002), p. 16.

18. Ibid, p. 5.

circular or cyclical process of autonomy as integral to the nature of living systems, as outlined in their notion of autopoiesis. Emergence becomes manifestly ontogenetic and ontological in its extreme or strong cases, because the former micro-macro dichotomy is looped together into a *system of becoming*.

Between nominal and strong emergence, Bedau then outlines a type called *weak emergence*, that science is better equipped to deal with. An example of weak emergence is a computational event, whether digital or 'natural': "The iteration and aggregation of local causal interactions that generate natural phenomena can be viewed as a computation, just like the causal processes inside a computer."¹⁹

19. Ibid, p. 9.

Downward causation is a feature of weak emergence but not in the same problematic manner of strong emergence. One simple example of weak downward causation, given by Bedau, is that of a traffic jam causing his car's motion to slow and its movements become erratic. Relations between micro-components (such as cars, peak activity and traffic system pathways) give rise to the macro pattern formation of a traffic jam. The car is affected, but not in nature as it remains the same car it was before and after the traffic jam (though if one was to regard this issue on a different time frame, I'm sure it would not be difficult to trace a history of how the increase of traffic jams has affected automobile design). The emergence of a traffic jam manifests as something like a shift from flowing liquid to a more solid formation, like water freezing and then melting again.²⁰

20. An apt description of this is offered by William Brahm: "many kinds of traffic jams occur once a certain threshold volume of cars is on the highway. The creeping stop or stop-and-start traffic that results is not caused by any one person's speed or decision to drive, but occurs like the change of phase as freely flowing liquid congeals into a solid at a certain temperature (and pressure)." 'in Kolarevic/Malwawi (2005)

The circle of affects is not 'vicious'. So, no problem: "The weak emergent macro-cause is nothing but the iteration of the aggregate micro causes. Ontological and causal reduction holds."²¹

21. Ibid, p. 17.

Bedau is unsure as to whether this scientifically admissible type of emergence might be "all the emergence we need", however he seems fairly sure that:

"Computer simulations allow weak emergence to extend reductionism into new territory, but they do so by embodying the idea that something's nature can depend on its genesis. Thus, the macro can depend on the context-sensitive process from which it arises and by which it is maintained."²²

22. Ibid, p. 22.

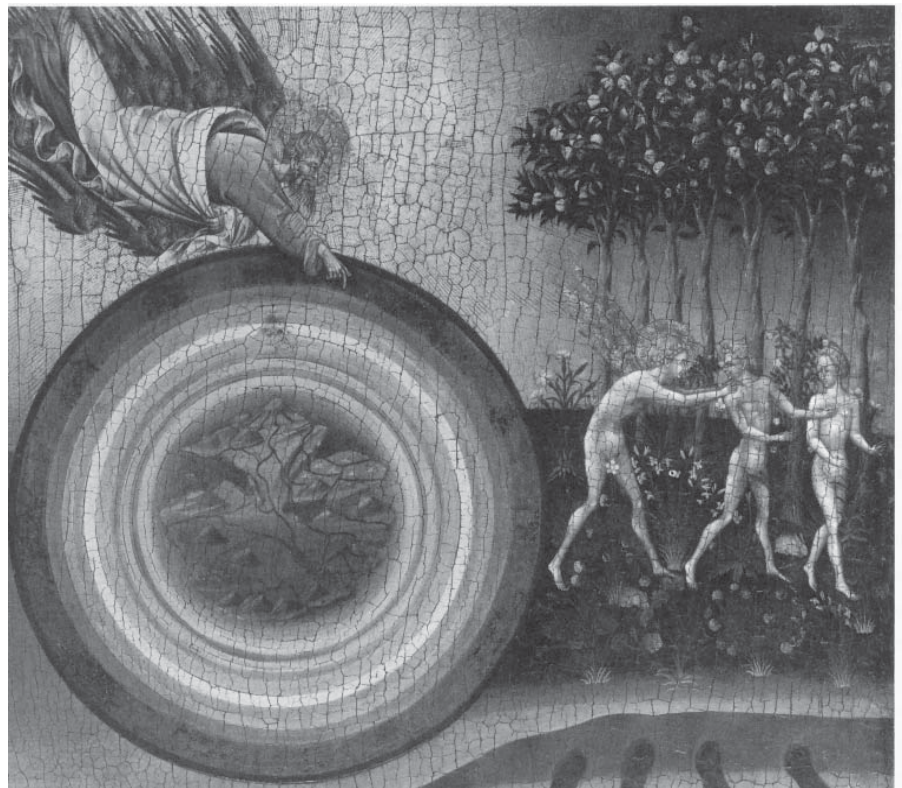
The 'context-sensitive' aspect of weak emergence is one of its crucial points; it has to be part of an event, such as a computer simulation, for it to occur. But while computer simulations may embody the idea that the

nature of something (such as an instance of weak emergence) depends on the particular interactions of its genesis, they can't explain these particularities in terms of its nature. The pathway of reducibility works only in one direction.

Bedau distinguishes these types of emergence from things that are not emergent, or *resultant properties*, which "are those that can be predicted and explained from the properties of the components."²³ To illustrate

23. Ibid, p. 4.

resultant properties he uses the example of a circle. Circles can be described as a collection of points, each of which has no shape or circular property, that come together to make a circularity. Circularity is a property of wholeness, not of its parts. Just as fluidity is a property of water but not of its molecules, this sounds, nominally at least, emergent. But Bedau argues that this is actually a resultant property because we know precisely how those points make a circle: by being equidistant from a particular point. The idea of the point and the rules of generating circles are embedded in the systemic consistency of Euclidean geometry. Everything of the circle's genesis becomes systematically explained simply because a circle can be a result of that known system. If this seems a slippery point of distinction, it is. We might know how those points make a circle, but what do we know of how that combination and that generative procedure makes a *circularity*? A circle is a thing. Circularity is a qualitative property of that thing.



2.02 Giovanni di Paolo, 'The Creation of the World and the Expulsion from Paradise' (1445).

If we dig a little deeper we find a particularly vicious circle. Euclidean geometry is a system that can not be attributed to any simple causes (unless we believe it to be a law of a strongly emergent phenomena called God or some universal truth). Euclidean geometry is argueably an emergent system in itself, becoming "the context-sensitive process from which [a particular idea of the circle] arises and by which it is maintained." We appear to be going around in circles.

24. Robin Evans takes issue with the apparent logical necessity of defining a circle in terms of a central reference point in his essay, 'Perturbed Circles', offering three ways of generating of a circle that do not involve a centre point. Robin Evans, Robin (1995), n. 84, p. 376.

25. Evans (1995) n. 84, p. 376.



2.03 Theodoros Pelecanos, The Ouroboros (1478). In alchemical tract titled Synosius.

The distinction gets slippery in another way when we realise that there are other ways of understanding a circle. Robin Evans describes three other ways in which a circle can be generated, none of which refer to a centre point.²⁴ The simplest of these is “the track that would be produced by a bicycle with handlebars fixed at a given angle to the frame”.²⁵ A circle appears and a circularity is enacted, but there is no designation of centre.

We might also consider the less geometrical *appeals* to circularity used to diagrammatically describe a set of relations or actions of some kind. One example of this could be the “viciously circular” downward causation of strong emergence. These feedback loops do not actually occur in perfect circular formation, they may not even be circular at all, actually. However, they are imagined and explained as such; a circle (virtually) appears and a circularity is described.

If we try to simultaneously imagine all these ways in which a circle can be generated, it becomes an idea, an image and a formation that buzzes with a multitude of virtual lives. The circle has no necessarily singular cause but becomes situated in a field of potential and implicit histories. How the general figure of the circle and the quality of circularity arose and led to its innumerable potential instances could not, I would suggest, be convincingly subject to reductive explanation. This swarming field of circularity plays an *implicit* role in the ongoing life of all circles; in their actual action in the world. Rendering a circle as a reductively simple resultant, is a way of casting this swarm aside wherein it becomes a dead, scientific object. It strips it of “the context-sensitive process from which it arises” removing all that is considered trivial and suppressing the potentially disruptive effects of any implicit undercurrent. This stripping away of implicit potential solidifies a particular context “by which it is maintained” (such as Eucidean Geometry) while making it difficult for it any other context-sensitive process to manipulate or transform it. Robin Evans puts it succinctly:

“Triangles, rectangles and circles as defined in Euclid have been pretty well exhausted as subjects of geometrical enquiry. As these elements lose their mystery, interest in them subsides, but in this state of devaluation they become more valuable elsewhere because their behaviour is completely predictable. Consequences can be foreseen. Dead geometry is an inoculation against uncertainty.”²⁶

26. Evans (1995), p. xxvii.

For this thesis, with its orientation toward process philosophy, the system of becoming that characterises strong emergence is of most importance – it is asserted as ubiquitous within a particular *mode of relatedness*. It depends, in other words, on how one engages with and perceives events. In orienting oneself toward process and change as the ground of the world and life, Bergson insists that consciousness must “detach itself from the *already-made* and attach itself to the *being-made*”²⁷ in order for it to get to the principles of its emergence. Already-made laws maintain an impeccable garden in which new life is outlawed, tending to restrain the perceived from flowing out of delimited moulds and training it to turn a blind eye to the movements always stirring the surface of perception. A ‘still life’ does not remain the same from moment to moment. Our perception of an object is less of an encounter with a form than, as Massumi puts it, a ‘form of encounter’:

“what we extract is not a “form” as we normally think of one. It is not static. It is a dynamism, composed of a number of interacting vectors. The kind of “unity” it has in no way vitiates that multiplicity - it is precisely an interaction between a multiplicity of terms, an interrelation of relations, an integration of disparate elements. It is diagram of a process of becoming.”²⁸

Bedau’s categories of the resultant and of nominal and weak emergence are not *necessarily* as evacuated of strongly emergent characteristics as he claims - they simply *can* be understood as such (to often very useful and pragmatic ends) when thought is cast into ways of relating to things that tend toward the reductive. Bedau’s call for science to put strong emergence aside in favour of the more reductionist friendly weak emergence skirts the danger that Isabelle Stengers pointedly enunciates in the quote at the beginning of this episode: the danger of “explaining away what the model had no need to take into account.”

As stated earlier, theories of emergence are intrinsically concerned with how things are *created* or *generated*. This has a clear and obvious relevance for any kind of creative practice, which can include scientific endeavour. While science tends to seek ways of reductively explaining how that genesis occurs, Isabelle Stengers urges scientists to be mindful of the creative activity that this entails.

Emergence is a construct or a model of creation. Models can often be approached as static things made to ‘grasp’ activity and fix it into more manageable forms. In this episode I have been trying to elucidate something of what reductive ways of approaching emergence ‘explains

27. Ibid, p. 237.

28. Massumi (1992), pp. 13-14.



2.04



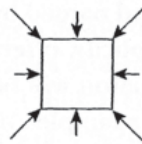
2.05

2.04 El Lissitzky, Self-portrait (1924).

2.05 Lázló Moholy-Nagy, 'Wie bleibe Ich jung und schön' (1925).

away' from the model: the *qualities of activity* or the aesthetic dimensions that are so powerfully an aspect of emergence. In unpacking that which gets packed away, I have been laying a path toward a more aesthetically inclined notion of emergence as an elastic, dynamic model pertaining to a mode of engagement, a way of relating, a perceptual orientation and a mode of composition.

Basic mechanism for Conway's automaton:

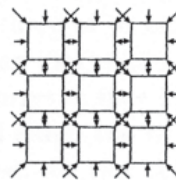


8 inputs, 2 states {1, 0}

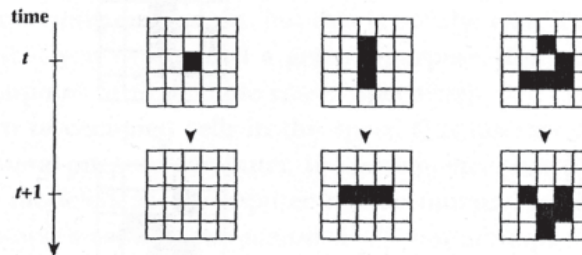
Transition function:

- If the state is 0 and exactly three neighbors are in state 1, then the state becomes 1; otherwise it remains 0.
- If the state is 1, and either two or three neighbors are in state 1, then the state remains; otherwise it becomes 0.

Basic mechanism connected to its immediate neighbors:



One-step transitions for some simple state patterns:



2.06 John Conway's automaton.

4. Shifting attention

“Scholarly thought and professional research have produced solutions that may be compared with those that folk cultures and lay crafts have devised. Conjuring up mysteries and demonstrating a competence to solve them is the central work of sorcerers...Perhaps there is also a kind of magic in the routine presentation of self in everyday life.”²⁹

29. Katz (1999), p. 309.

Emergent phenomena may be those holistic properties that befuddle the reductive tools and conventions of science, appearing as if by the hands of sorcerers, but they are nevertheless deeply familiar to us all. Some of the more aesthetically oriented examples of character, atmosphere and style are also deeply familiar qualitative ‘things’; textures or consistencies that we know even though we are not sure how we know them or how they come into being.

Contemporary accounts of emergence do not tend to discuss these kinds of phenomena, concentrating more on organizational complexes which clearly arise through operational systems (such as behaviour in economic markets, games, cellular automata) and/or those apparently independent of human perception (weather, ant colonies, crops and nature in general).

John Holland’s *Emergence* offers a rare exception. In one poignant section he moves into the realms of aesthetics in addressing the question of the nature of emergent phenomena. After devoting the majority of the book to an intricate exploration of constrained generating procedures, or the micro-laws of specific processes of emergence, he turns to address their connection to the macro level, or to the emergent phenomena themselves: “Whether it is Conway’s automaton or some real world process, we do not expect the emergent phenomena we observe to have simple descriptions in terms of the underlying laws. Indeed, in both cases, we search avidly for simplifying macrolaws.”³⁰

30. Holland (1999), p. 189.

Holland insists that a deeper understanding of emergence requires that we better understand, or model, the macrolaws of emergent phenomena. He writes that as we move between levels, there is an axiomatic shift: the scope and nature of the laws of the system of activity changes. There is shift in order. A move ‘down’ to the micro-level involves a burrowing into the details, wherein we lose sight of the global qualities of the macro-level. On the other hand, a moving out to survey the big picture means that the details can no longer be seen. This shift in law and order, inasmuch as it

describes a leaping between scientific reductionism and aesthetic wholes, can also be likened to movements of attention involved in stepping back from a drawing to appreciate the overall composition and then shifting back in, to working up close on the more local behaviours within the pen work techniques. Refining our understanding of how these levels work together entails a kind of attention that deepens the creative process. Or, perhaps more precisely, it offers (at least) two different *kinds* of depth, adding dimensions to the field of attention. For Holland, the (creative) process of invention or innovation offers clues regarding what we might need to look out for.

5. Creative process as a model of emergence

“The menace here is that the complexity field may play exactly the same role as the traditional sciences of simple, linear systems: ‘Let us begin with the complex, the rest is the same, just still more complex’ ...I trust that the field of complexity may answer the challenge of resisting power and accept this new version of Joseph Needham’s remark: if there is ever to be any coherence between the brain as a very, very complex system and the production of experience, it will be complex-systems theory that will have changed.” Stengers (2004, 98-99)

One example of strong emergence is the coming-into-being of innovation. An innovation may emerge, but we can’t track the steps back to generalize that process in order to control the production of more innovation, at will. The process is not reproducible – evidenced in the struggles to generate successful institutes and research centres whose mandate is: innovate. Innovation is clearly not only something that is emergent, it just as clearly folds back to alter the conditions from which it arose, exhibiting that ‘vicious circle’ of ‘downward causation.’ “Ultimately”, Holland writes, “to understand emergence, we must understand the process that engenders these inventions.”³¹ Holland writes that true innovation involves a leap that *remains mysterious* only *because* we lack a well-defined model of the creative process.

The ‘creative process’ is not the same thing as the mechanical laws that internally define a system displaying emergent outcomes. It is also not the same as the conventions through which scientific research displays its processes of enquiry, which Holland characterizes as “careful, step-by-step reasoning, each step following directly and closely from the previous step.”³² The problem with this neat and tidy form of explanatory,

31. Holland (1999), p. 202.

32. Ibid, pp. 204-5.

logically reasoned display, he writes, is that “this widely accepted scientific standard has given rise to a view, held by some scholars and scientists, that this step-by-step, almost mechanical procedure is the way that science is actually constructed. It is a view that marginalizes imagination and creation. But few scientists, if any, actually carry out their research in this fashion.”³³

33. Ibid, p. 205.

Invention in the sciences occur, Holland argues, via quite a different process: one of a transversal mapping of relations from one model into another new model. As an example he refers to James Clerk Maxwell’s use of a mechanism-oriented fluid mechanical model to arrive at his equations for electromagnetic fields Maxwell writes about holding onto a ‘clear physical conception’, borrowed from one area of physical science, in developing a new conception of another. Holland discusses this as a *metaphoric conjunction* where a source model is used to develop a target model, via the link of metaphor.

But this transversal movement of a pattern from one site to another does not happen without involving the affects of a submerged, embedded background of disciplinary knowledge and assumptions, accumulated as “a complicated aura of technique, interpretation, and consequences, much of it unwritten.”³⁴ Both source and target come to the party of metaphoric conjunction with their auratic accumulations unfolding a “recombination of these auras, enlarging the perceptions associated with both the target and the source.”³⁵ The result: something new. While the new thing is, most explicitly, the ‘target’, the source is also renewed. In other words, the newness is all encompassing: *what emerges is an all-over, over-all shift in the nature of the world.* As Sanford Kwinter has noted, “each innovation is the product of single and novel way of being in the world, an invention that then re-disposes the world according to entirely new rhythmic values.”³⁶

34. Ibid, p. 206.

35. Ibid, pp. 207-8.

36. Kwinter (2000) p. 35.

Holland loosely suggests that an as-yet-unformulated carrier model of creative process would pertain to the conjunction of poetry and physics. “In a sense,” he writes “the poetic framework is too loose whereas the scientific framework is too tight.”³⁷ The loose and the tight need to join forces, combining their ‘auras’ in a mutually transformative conjunction. The important implication here is that the invention of a model of creative process would involve a mutually affecting conjunction of science and aesthetics.

37. Ibid, p. 219.

This potential does not seem far from the fact that emergence alerts us to the relation between different modes of knowing the same thing, generally understood in terms of the difference between laws of the micro and the macro. This can be generalised into two divergent and competing

epistemologies, roughly sketched out here as science and aesthetics. As different modes of attention, scientific reduction is oriented toward discrete micro-relations and aesthetics toward the macro-configurations. In the inventive, creative process – as in strong emergence – both modes or levels are involved in change, affecting one another in a co-determining manner.

At first sight the creative leap arising from metaphoric conjunctions between models might seem more like a macro-macro pattern match, rather than the leap between the micro and the macro that tends to describe emergence, placing it in an ambiguous relation to the usual description. But the conjunction between patterns or models involves both micro and macro levels. In fact, it involves a breakdown of the two-tiered model into a far more spatial one, where an intensive order arises through the intimate meeting of disparate micro-organisations, such that together, they transform or leap into a change of *overall state*.

The promise in developing the model of emergence along these lines does not just lie in scientific forms of attention becoming more attuned to aesthetics, but also in aesthetic forms of attention becoming more attuned to the scientific. Or, as Kwinter eloquently put it (quoted earlier), that they both become “re-disposed according to entirely new rhythmic values.” An overall pulse or rhythm holds together events in particular ways that are inescapably a designation of value and an instantiation of ‘style’ (to be discussed later).

Coming to terms with such ‘values’ ushers ethics into the picture. Ethics entails an attention to *the ways in which we behave or engage within the world*: a composition of behaviour or *composure*. These ‘ways’ are patterns of behavioural tendency, pertaining to how we assign value in negotiating the power of relations (in affecting and being affected). Such patterns or refrains are not simply static assemblages (like fixed diagrams), as they have temporal shape that is perhaps best described as rhythmic. It is not just that a pattern is repeated rhythmically, because the texture of the throb and beat is part of how it all holds together into a composure.

6. Situated composure – the ethics and art of emergence

“To tend the stretch of expression, to foster and inflect it rather than trying to own it, is to enter the stream, contributing to its probings: this is co-creative, an aesthetic endeavour. It is also an ethical endeavour, since it is to ally oneself with change: for *an ethics of emergence*.”³⁸ Brian Massumi (my emphasis)

38. Massumi (2002b), p. xxii.

In a paper titled ‘The Challenge of Complexity: Unfolding the Ethics of Science,’ Isabelle Stengers warns against complusive reductionism and calls for scientists to take a more generative, risky, uncertain stance. This, she suggests, is an ethics that unfolds from complexity science itself:

“Complexity, as it started with the discovery and study of surprising properties, usually related to the irreducible importance of nonlinear relations ... would produce the opportunity to entertain a different relation with the past, emphasising openness, surprise, the demand of relevance, the creative aspect of the scientific adventure, and not reduction to simplicity. True scientific simplicity is never reductive; it is always a relevant simplicity that is a creative achievement.”³⁹

39. Stengers (2004), p. 96.

Related issues are explored through a remarkable little book called *Ethical Know-How. Action, Wisdom and Cognition* by Francisco Varela. Varela distinguishes between ethical expertise and ethical deliberation. Most western writers on ethics, he claims, tend to focus on reasoning as the central issue⁴⁰ wherein ethics becomes an issue of deliberation. Ethical expertise does not centre itself on rational judgements of reasoning or on how this may be applied as ethically instrumental. Rather, it is based on the inextricability of the specific tissue of circumstances or situatedness. With some affinity with Foucauldian and Spinozist approaches to ethics, as well as Felix Guattari’s notion of the *ethico-aesthetic*, his notion of ethical know-how dwells in a “skillful approach to living ... based on a pragmatics of transformation that demands nothing less than a moment to moment awareness of the virtual nature of our selves.”⁴¹ To act ethically, one must be acting with sensitivity to the particularities of the situation where there is not a reliance on a set of rules:

40. Varela (1999), p. 23.

41. Ibid, p. 75.

“To gather a situation under a rule a person must describe the situation in terms of categories we may call cognitive. Instead, if we try and see correspondences and affinities, the situation at hand becomes much more textured. All relevant aspects are included, not just those which fit the reduction of a categorical analysis.”⁴²

42. Ibid, p. 28.

This might be as simple as being attentive to the implicit potential of a circle. Action becomes infused with potential relevance, becoming situated in a field of potential such that the creative and transformative possibilities are multiplied and amplified. The kind of know-how being discussed here does not exclude forms of knowing that 'fit the reduction of a categorical analysis.' 'Knowledge of' and 'know-how' are not set up in opposition; know-how incorporates both rational forms of categorical analysis and the situated forms of aesthetically inclined knowing, that I will discuss in the next Act.

43. Taylor (2001), p. 14.

Theorist Mark Taylor, in summarising 'the moment of complexity', writes that "according to complexity theorists, all significant change takes place between too much and too little order,"⁴³ resonating with Holland's suggestion that innovation requires finding an artful middle ground between the looseness of poetry and the tightness of science. Along these lines, Varela has suggested that:

44. Varela (1999), pp. 31-32.

"intelligence should guide our actions, but in harmony with the texture of the situation at hand...truly ethical behaviour takes the middle way between spontaneity and rational calculation."⁴⁴

45. Johnson (2004), p. 189.

This property of ethical expertise might also be called 'the art of emergence'. Steven Johnson writes that: "We are only just now developing such a language to describe the art of emergence. But here's a start: great designers ... have a feel for the middle ground between free will and the nursing home, for the thin line between too much order and too little. They have a feel for the edges."⁴⁵

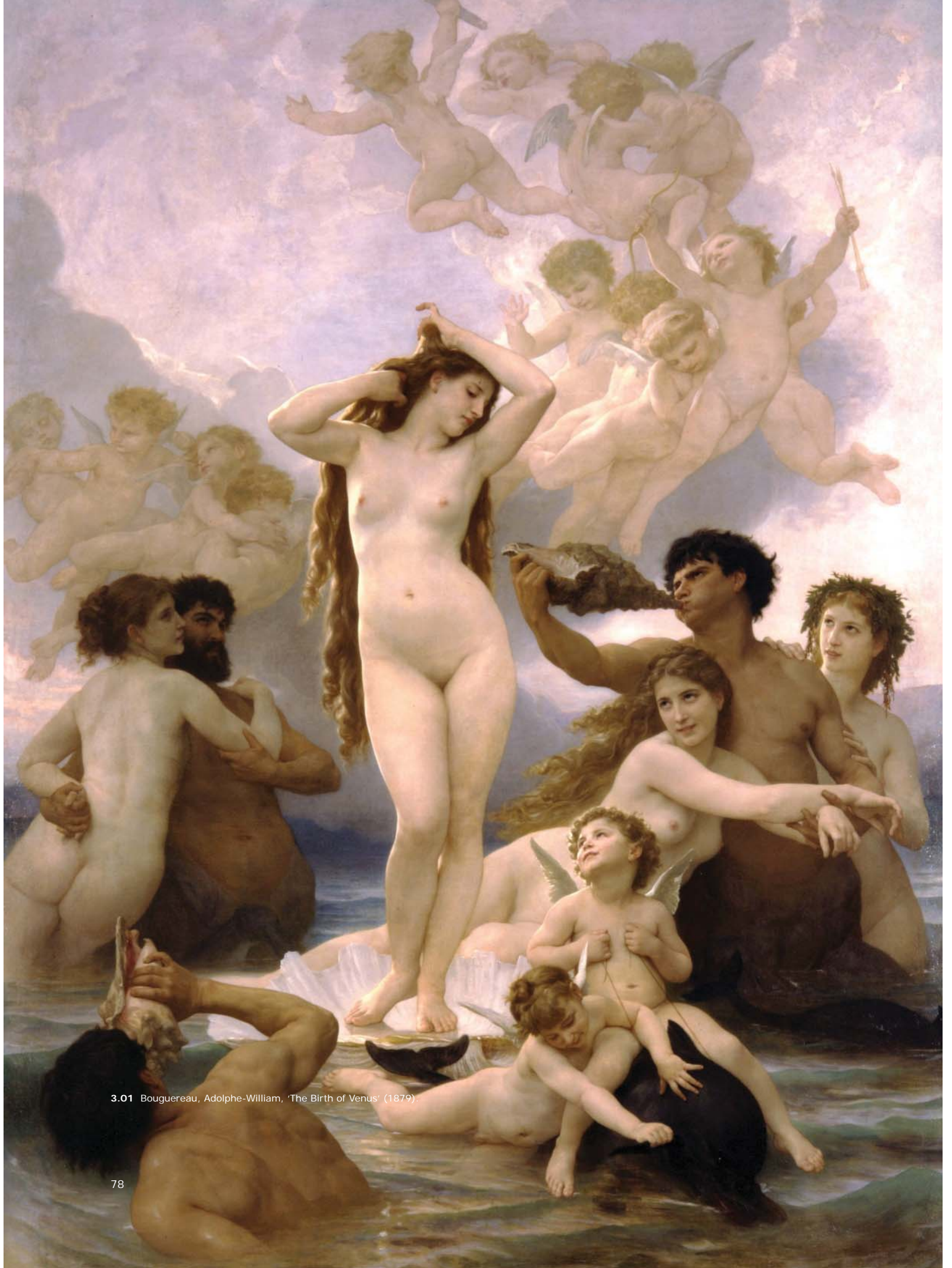
Stenger's assertion that an ethics that unfolds from complexity science calls for a more uncertain stance, can also be seen as a call for scientists to embrace the art of emergence wherein, perhaps, lies the missing model of creative process. It would seem that the 'art of emergence' involves what Varela calls ethical 'know-how'. In the coming together of these terms, I will use Guattari's useful term in coining the phrase: 'ethico-aesthetic know-how.'

I should emphasise here that ethics is not about the 'good' and the 'bad', redemption or claims for redemptive powers. Its about a 'measured' practice of engaging with the world, of how we behave, of what we acknowledge is at stake. Ethico-aesthetic know-how is about the amplification of potential – which doesn't necessarily lead to the 'good' because it magnifies risk. Rather than being framed around the *virtuous*, ethico-aesthetic know-how is about the *virtuoso*: the skilled performer. Even if there are

no easy rules or moral guidelines here, there is an important principle or navigational directive. That is: that the performance of any act strives for a balance between affecting and being affected, between active reflection and the immediacy of embodied response, between sensitive responsiveness and determined agency. This is a politics of action that neither caves in passively to collective desires or beliefs nor holds to individualism, authorship or dictatorship as the power of truth. It is both determined and respectful, pushy and playful. It involves raising both thinking and acting to their highest powers, such that they affect and fold into one another. Or, in short, ethico-aesthetic know-how involves the embodiment of wisdom.

ACT 3. The Ethico-Aesthetics of Emergence - æ

Act 3 discusses an approach to aesthetics relevant to the issues raised in the previous Act. After a discussion about the socio-political relevance and some background history of the aesthetic, I outline Richard Shustermann's pragmatist (or radical empiricist) aesthetics and move to develop his suggestions via William James and the experience of relation, affect and related forms of attention. A model pertaining to the ontogenesis of the self by psychologist, Daniel Stern, then offers a way of objectively detailing the operations of affect. The abstract but ineluctably embodied models of perception discussed here are posed in terms of the forms of attention and expression involved in the art or ethico-aesthetics of emergence.



3.01 Bouguereau, Adolphe-William, 'The Birth of Venus' (1879).



1. The relevance of aesthetics

“Affect holds a key to rethinking postmodern power after ideology. For although ideology is still very much with us, often in the most virulent of forms, it is no longer encompassing. It no longer defines the global mode and functioning of power. It is now one mode of power in a larger field that is not defined, overall, by ideology. This makes it all the more pressing to connect ideology to its real conditions of emergence.”¹

1. Massumi (2002), p. 42.

Terry Eagleton’s ‘The Ideology of the Aesthetic’, approaches the subject of aesthetics with an interest in the relations between aesthetics and the specificities of “dominant ideological forms of modern class-society and indeed from a whole new form of human subjectivity appropriate to that social order.”² In relation to the swelling of an aesthetic paradigm, referred to in the quote from Massumi above, Eagleton offers a useful, historically related argument that ideology is not only part of the construction of aesthetics but that the aesthetic “provides an unusually powerful challenge to these dominant ideological forms, and is in this sense an eminently contradictory phenomenon.”³ The twist of Eagleton’s book is that in exploring the ideology of the aesthetic, he quietly offers an account of how aesthetics overflows ideology. If aesthetics is born from that which it then powerfully challenges, it has, by stealth, taken over the role of dominance. This resonates with the attempts of modernity to avert attention away from the volatility of affect and toward stable, measurable reason, only to render all stability volatile in turn.

2. Eagleton (1990), p. 3.

3. Ibid.

My brief attention to Eagleton’s project here is due to his emphasis on linkages between aesthetics, the body and political ideology. We need look no further than contemporary western politics to see that the role of ideology is complicated: beliefs, attitudes and values have an ambiguous role in the operations of contemporary democracy. While remaining an

- 4. Massumi (2002).
- 5. Massumi (2005a).
- 6. Gibbs (2001).

important organisational device, ideology is just one instrument in the orchestra of a more encompassing system: a self-organising, complex, dynamic one. Some remarkable analyses explore the political performative intricacies of, for instance, Ronald Reagan⁴ and the Bush government⁵ (by Brian Massumi) and Pauline Hansen⁶ in Australia (by Anna Gibbs). Politics operates via aesthetic paradigms. This shift has also been remarked upon in some detail in the work of those such as Negri and Hardt, Paulo Virno and – earlier – Felix Guattari, who signalled broad cultural shifts toward an ‘ethico-aesthetic paradigm’ in his late work *Chaosmosis*:

- 7. Guattari, Félix (1995), p. 101.

“The aesthetic power of feeling, although equal in principle with the other powers of thinking philosophically, knowing scientifically, acting politically, seems on the verge of occupying a privileged position within the collective Assemblages of enunciation of our era.”⁷

But in these investigations, ‘the body’ is not all flesh and blood, because it has been expanded into a relation between corporeality and the technologies and social assemblages that modulate bodies. Once you open the bag of the body’s skin onto such an expanded field of activity, that which counts as embodiment swells into a virtually inconceivable complexity of interrelatedness that threatens to shatter any sense of coherence into a multitude of fragments. The flesh of embodiment, or that which threads together the expanse of human and inhuman, tangible and intangible, is what we call *affect*; slippery, ungraspable and ever on the (collective) move. These papers indicate how political power is amassed through affective nets – abstractly cast through the multitude in gestures whose impacts operate largely outside of awareness.

The orientation toward aesthetics that I discuss here has some resonance with Eagleton’s interest in the relations between aesthetics and the ‘ideological forms of modern class-society’ in that it is a response to the configurations of contemporary, western cultural formations - as different to that of ‘modern class society’ - and the shifts in human subjectivity that are a fundamental part of these reconfigurations.

The social field is a complex, dynamic field of relations through which our navigations are significantly guided by feeling. In tackling, as Guattari phrased it, “the collective Assemblages of enunciation of our era” through the privileged role of the “aesthetic power of feeling” we have already accumulated many resources through social development. Our social conduct is, however, so everyday and immediate that we rarely think of it as guided by an aesthetic know-how. But as Katz generously suggests,

there is an “aesthetic genius” at work in the production of convincing emotional expression. If we remind ourselves that social conduct involves great efforts of composure, developed initially through many years of childhood training, then the great efforts of aesthetic composition do not seem so remotely unrelated. It starts to become evident that ‘feelings’ in themselves are not sufficient guides, either for social conduct or creative composition, but the contours of the map and the navigational techniques are nevertheless embedded in the aesthetic:

“We rest our subjectivity on rhythmic sensibilities, feelings for directions, and visions of unfolding patterns, allowing aesthetics to guide us.”⁸

8. Katz, Jack (1988), p. 5.

2. The body of aesthetics

Discursive tackling of aesthetic issues goes back at least to classical antiquity, but the usual marker of the birth of aesthetics (as a modern discourse so named) is given to Alexander Baumgarten and his *Aesthetica* of 1750. Baumgarten formulates aesthetics as a ‘sister’ of logic, a feminine, inferior version of reason. In contrast to conceptual thought or the refined action of minds, Baumgarten’s aesthetics pertains to the more confused realm of perception and sensation – or the more crude action of bodies. But this confusion is more about ‘fusion’ than muddle,⁹ where that which constitutes the aesthetic is a unity that defies the compartmentalisation of reason. Whereas rational analysis operates by breaking things down into parts such that the relations between them can be clearly understood, the aesthetic attains clarity through indissoluble unity or complexity.

9. see Eagleton (1990), p. 15.

But how does aesthetics approach its indissoluble product? Aesthetics, as a field of enquiry, began with an asymmetrical distinction between reason and sensation, with the aim of accounting for the later in terms of the former. Historically the task of aesthetics has been to hold the operations of feelings and sensations in the hand of rational analysis, to capture their volatile willfulness in the clean containers of immaterial logic – without, of course, putting at risk the absolute power of reason.

Conventionally, aesthetics largely deals with its subject through problems of fine art. It addresses issues such as the nature of aesthetic unity, beauty, style, character, sensibility, taste and related operations of perception and sensation. These issues are commonly considered in terms of the work of art (or architecture) and in distinguishing categories therein. Modernity involved massive developments in techniques of manipulation and reform, which had profound effects on subjectivity and experience.¹⁰

10. Technology has had an enormous role to play in this. Walter Benjamin’s juxtaposition of the new analytic powers emerging through both Freudian analysis and film made this partnership of influence quite clear. As part of the emergence of the printing press and technologies of time, photography and cinematography, radiography and telephony, electricity and technologies of transportation and speed, the intensification of cities and their infrastructures – to name a few – the landscape of experience was transformed. As Sara Danius (2002:3) has argued, technology had an integral role in reconfiguring perceiving and knowing, a transformative shift that unleashed “the problem that so many modernist texts and artifacts stubbornly engage: how to represent authentic experience in an age in which the category of experience itself has become a problem.”

One significant aspect of this shift was the development of psychology and the manipulation of 'inner' worlds of feeling, subjectivity and behaviour toward better functioning citizens. It is through this discourse that we can see a gradual development of the concept of *affect*; a concept that has now been matured to the extent that it offers aesthetics a more detailed contour map of its operational ground. Via this conceptual tool, aesthetics increasingly becomes related to practices of life, experience and becoming. This inflection of aesthetics is central to the way in which I am approaching it here.

Along related lines, Richard Shusterman's *Pragmatist Aesthetics*, originally published in 1992, aims to revive John Dewey's pragmatist approach to aesthetics in *Art as Experience* (1934) that, for a variety of reasons, fell by the wayside under the subsequent dominance of analytic aesthetics.¹¹ As Shusterman writes, with analytic aesthetics, "the aim was to analyse and clarify the concepts and practices of established criticism, not to revise them in any substantial sense. It was to give a true account of our concept of art, not to change it."¹² Dewey's aim, by contrast, was to reconnect aesthetics with the practices of living, wherein it could be aimed at "achieving richer and more satisfying experience, in experiencing that value without which art would have no meaning or point, without which it cannot as a global phenomenon exist or be understood, let alone be defined."¹³

Shusterman recasts Dewey's project into that which he calls 'somaesthetics'. Interestingly enough, this involves looping back to Baumgarten's founding mid-eighteenth century text wherein he finds a far broader scope afforded to aesthetics, implicating the art of living, that seems to have gone astray in the interim period. As Shusterman writes, Baumgarten's aims for a formal philosophical discipline of aesthetics went beyond that which now tends to define the field, as "the theory of fine art and natural beauty."¹⁴ An aspect of Baumgarten's aesthetics involves forms of practical training and exercise:

"Contrasting such aesthetic drill to the mechanical drill of soldiers, Baumgarten defines it as including also the systematic practicing of improvisation and even the playing of games, as well as exercises in the more erudite arts."¹⁵

11. It seems plausible that this occurred as part of the same field of influence in which both debates of emergence and composition quelled.

12. Shusterman (2000), pp. 17-18.

13. *Ibid*, p. 18.

14. *Ibid*, p. 264.

15. *Ibid*, p. 265.

However, Baumgarten diverts an attention to bodily feeling, calling for a focus on the more controlled, improved guidance of the mind. Shusterman proposes somaesthetics as a philosophical field that could redeem Baumgarten's agenda for an art of living or life-improving discipline while ending "the neglect of the body that Baumgarten disastrously introduced."¹⁶

16. Ibid, p. 267.

Somaesthetics proposes a new "discipline" that already has a long history and many refined practices at hand. Shusterman cites Alexander Technique, Bioenergetics, Feldenkrais Method, yoga, meditation, T'ai chi along with disciplines like the martial arts, athletics, gymnastics, aerobics and weightlifting. Francisco Varela's controversial turn to Buddhist meditation practices as an integral aspect of his research offers a related stance (though not referenced by Shusterman). The newness and value of somaesthetics, claims Shusterman, lies in placing this stance within the territory of philosophy, wherein relevant body-practices might benefit from "a structuring overview or architectonic to integrate its very different, seemingly incommensurable, discourses into a more productively systematic field."¹⁷ And, at the same time, this might offer philosophy a better grasp of its embodied conditions and a more pragmatic orientation to 'body talk'.

17. Ibid, p. 271.

Shusterman's theory of somaesthetics has some obvious appeal in relation to the notion of aesthetics being developed here. His attempt to reconnect embodied practice with philosophical thought has some affinity, especially given its special attention to connecting aesthetics with pragmatism or radical empiricism.

In introducing this field, Shusterman emphasises that its "purpose is to show its potential utility, not its radical novelty"¹⁸, quoting William James' recognition that pragmatism, as much as it was a radical empiricism, was also simply "a new name for some old ways of thinking."¹⁹ In turning to James we also find a productive way of diving into the micro level potential of Shusterman's somaesthetics. With James, any closed object or 'dumb matter' that might be implied in 'the body' or 'the flesh' is opened into the more abstract, connective field of *affective relations*, or in other words, where relations are, *in any case*, affective.

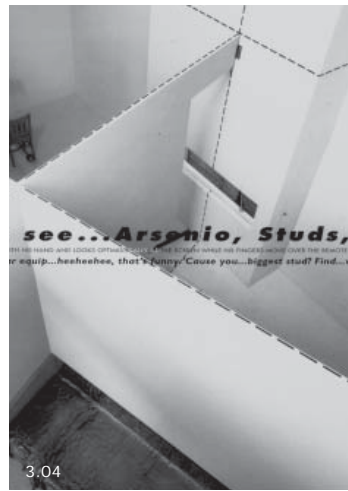
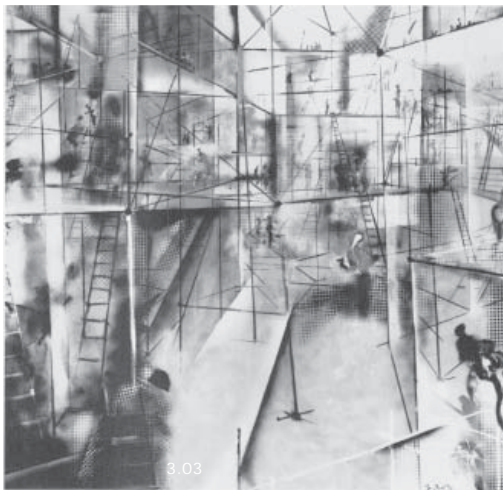
18. Ibid, p. 263.

19. Ibid.

20. Massumi (2002a), p. 231.

3. The experience of relation

Referring to William James, Brian Massumi notes that: "relations are no less fundamentally given, no less directly given, than discrete objects and their component properties. That they are directly given means that they are directly perceived. Relation is immediately perceived *as such*."²⁰ Relations are not abstractions ascertained through an extraction away from a more immediate reality, relations *are* the immediacy of experience, which is already abstract.



3.03 Constant Nieuwenhuys, *Ode a la Odeon* (1969). Constant's drawings, such as this one, could be seen as studies of the complex texture of relations. **3.04** Diller and Scofidio, *Withdrawing Room* (1987). Much of Diller and Scofidio's work, such as this installation project offers critical probes into the dynamics of socio-spatial relations.

This experiential immediacy is perhaps easiest to understand in terms of spatial relations. The relations that constitute our sense of spatiality are always an issue of dynamic movement. They are a physics of dynamic exchange: the physics of feeling and the feeling of physics. Cats excel at physics. They feel it out expertly, performing it with astonishing precision. Clumsiness is uncharacteristic of the species: they don't commonly knock over the wine glass when they leap onto the table. They calculate on-the-fly differentiations (relations) with agile precision. Cats calculate with feeling, as we all do. We don't generally stop to think, rationally calculate, and certainly not to measure, the spatial relations we negotiate on an everyday level. We know a relation through feeling it: through the sensation of its patterned gradients. As William James puts it:

*"The line is the relation; feel it and you feel the relation, see it and you see the relation ... all spatial knowledge is sensational at bottom, and ... as the sensations lie together in the unity of consciousness, no new material element whatever comes to them from a supra-sensible source."*²¹

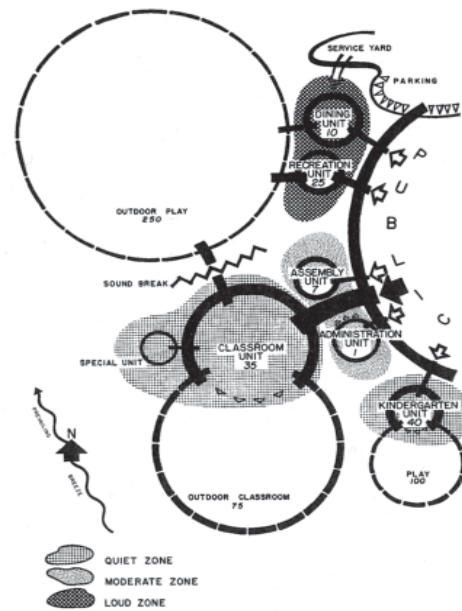
21. James (1890), pp. 151-153.

If the feeling of relations operates at the 'bottom' of our spatial knowledge, then spatial knowledge is, at its most vital level, an aesthetic phenomenon. This is quite different to the idea that spatial knowledge is, first and foremost, a measurable field of extension and that our feelings or sense of that given space is secondary.

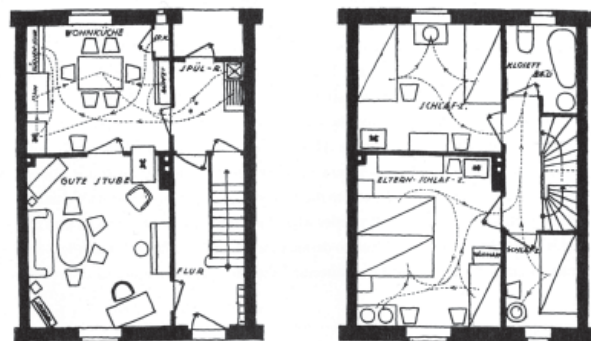
The relation of distance between two points is easily thought of as a static relation of quantitative rather than qualitative nature. But as we draw and measure the line that defines a distance, we have moved along

it. We have journeyed in a way that defies all measured distance. Distance can, obviously, often be measured. But what tends to be forgotten about such a distance relation is the quality of the movement it involves. In other words, what can get forgotten is how we knew anything about it in the first place, allowing the tools that helped to develop that knowledge in a particular way to become the most important thing to know.

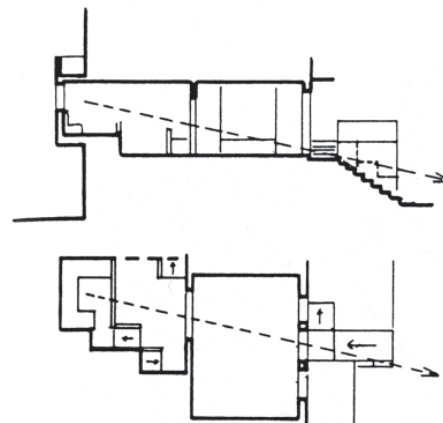
Relations are differential movements between conditions. They are always caught in the act: acts such as feeling the difference between hot and hotter, walking a path between door and bed, having a wall between bedroom and kitchen, enacting an exchange of goods, identifying a group. Each of these acts involve differentiation and transaction; gradients of transition; qualities of connection. Relations simultaneously connect and differentiate, but each time they do it, they do it differently. For instance, the wall between bedroom and kitchen both separates and gives them adjacency. But the quality and nature of both separation and adjacency differs according to that which the wall offers the relation: such as it's materiality, thickness-thinness, acoustic properties, height, potential openings or internal windows. Then, what we hear, see and come to know across that wall and whether we want to know it can offer further layers to that quality of separation and adjacency. The quality of relation that we feel between bedroom and kitchen is contingent on the material, spatio-temporal situation. Relations are always inseparable from events. They are also at the basis of how we know and feel our way around, affectively.



3.05 SPACE RELATION DIAGRAM



3.06 Abb. 53. Reihenhaus, Erdgeschoß Abb. 54. Reihenhaus, Obergeschoß



3.07

3.05 Space Relation Diagram, from William W. Caudill, Space for Teaching, 1941. 3.06 Circulation diagrams from Bruno Taut, Die neue Wohnung, 1924. 3.07 Sections through the Moller House (1928), Vienna, Adolf Loos.

4. Affect

Affect operates at the level of what William James calls 'pure experience' which he describes as:

"the immediate flux of life which furnishes the material to our later reflection with its conceptual categories. Only new-born babies, or men in semi-coma from sleep, drugs, illness, or blows, may be assumed to have an experience pure in the literal sense of a *that* which is not yet any definite *what*, tho' ready to be all sorts of whats; both full of oneness and manyness...Pure experience in this state is but another name for feeling and sensation... Its purity is only a relative term, meaning the proportional amount of unverbaised sensation which it still embodies."²²

22. James (1977), p. 215.

Affect is that 'immediate flux of life' that we modulate into gestures and named feelings. While affect is often associated with, or thought to mean, emotion, in order for it to be understood as something relevant to activity beyond overt and consciously expressed gestures, affect needs to be understood as being part of but not reducible to the emotive.²³ William James asserts and Brian Massumi reiterates "we don't run because we feel afraid, we feel afraid because we run."²⁴ Emotions turn the force of relations into gestures or postures, bringing them into consciousness, redirecting them as they turn and unfold: they are an act through which we name, categorise, modulate and realise orientations toward an event or thing.

23. For an extended account of why affect and emotion ought not to be confused, see Massumi (2002a), particularly: pp. 23-45.

24. "He means 'consciously afraid.' We have already begun to experience fear nonconsciously, wrapped in action, before it unfurls from it and is felt as itself, in its distinction from the action with which it arose. Activation is a better word than action, because fear can be, and often is, paralyzing. When it is, in the place of action there is agitation, a poising for action, the taut incipency of action that may fail to take definitive form. Where a specific action does unfold, its onset still will have been in an indistinction with affect, in that vague feeling-acting-coming-on, in a durationless moment of suspense in the time-slip of threat. It will have been a shock to the system whose immediacy disconnects the body from the ongoing flow of its activities while already poising it for a restart." Massumi (2005), p. 36.

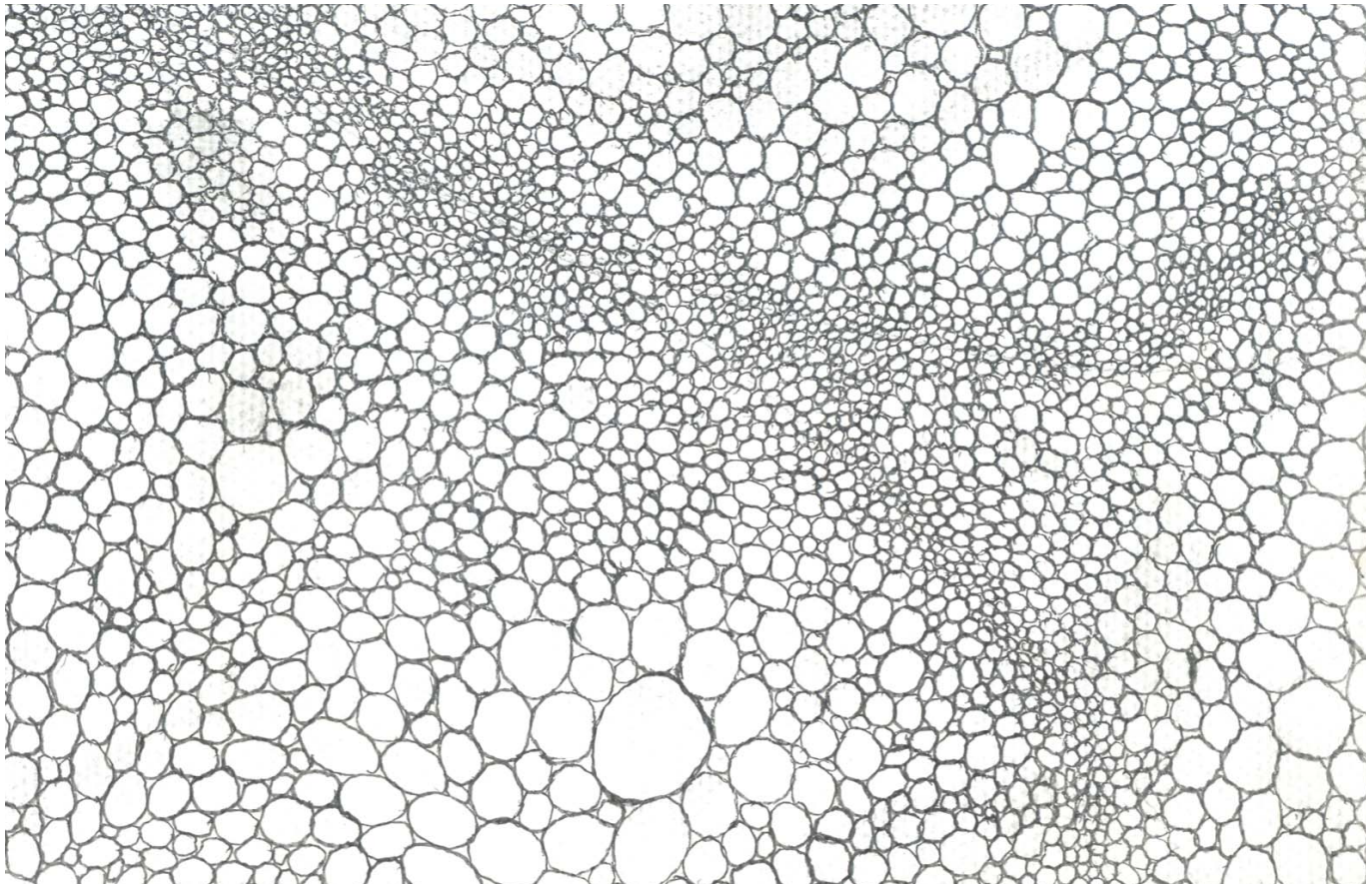
Affect is often confused with effect. Each of the terms, affect and effect, pertain to *a way of understanding how things happen*. Effects come from causes: things that happen as a result of something else. They are related to what Bedau called 'resultant properties.' Affect is more complex and deeply involved in emergent phenomena. It pertains to the force of relations: the influence of relations on one another. Because relations are never singular, always occurring in multitudes or as event-textures, their affective 'force' can never be the effect of a cause, as it arises or very literally emerges out of a sea of relations. Much of this relational texture stirs elusively in what can only shimmer vaguely as potential. To the extent that affect always pertains to dynamic, complex assemblages of relations, it is always *complex*, involving an intricate interweaving of diversity and variety, actual and virtual.²⁵ Affect pertains, to put it more qualitatively, to the finely grained *complexion* of events.

25. Massumi analyses this in depth in his paper 'The Autonomy of Affect', Massumi (2002a), pp. 23-45.

Poised in this abstract manner, affect can be seen then to operate at the micro level of phenomena or at the local level of interactions from which emergent phenomena arise. Emergent phenomena, such as will and

consciousness, as Massumi puts it, are “limitative, derived functions that reduce a complexity too rich to be functionally expressed.”²⁶ Aesthetic percepts such as beauty similarly capture a complexity, while resisting reduction. However, as I will go to discuss, once affect is understood to constitute the basic micro-relations of aesthetic percepts, it becomes possible to explore the operations of its micro-level interactions. Massumi’s work on affect also shows how feedback loops, or what Bedau and others call ‘downward causation’, are necessarily an aspect of the operation of affect. He does this through a discussion on what is called ‘the missing half second’.

26. Massumi (2002a), p. 29. Massumi suggests here that will and consciousness are “subtractive”, but I wonder if they are just as much a contraction as a subtraction. Following on from the last Act and the discussion on the perception of circles, one could possibly say that the degree to which an emergent phenomena is subtractive and/or the contractive, relates to its balance of aesthetic ‘fullness’ and cognitive reduction. In other words, the more contractive it is, the more it is aesthetically inclined, and the more subtractive it is, the more reductively cognitive it becomes.



3.08 Pia Ednie-Brown, Field drawing (2004). Pencil on canvas and gesso.

In the 1970s, Benjamin Libet claimed that there is a half second delay between the first sparks of brain activity and the conscious awareness of what sparked it. But this doesn't mean it takes that long to act - it means we start acting prior to conscious volition. We haven't had a chance to feel it sensuously and yet, folding through the present, is the influence of an unfelt background action. Libet's findings have sparked some very considerable debates, many concerning the actual length of the gap and what traverses it, but also regarding the nature and/or existence of free will.²⁷ It is not necessary here to delve extensively into the details of these debates, but two aspects of them are worth mentioning here.

27. see Klein (2002).

Much of the debate largely revolves about the perceived disjunction between scientific reductionism and Libet's claims regarding free will. In the name of scientific reductionism, many claim that Libet's findings suggest that free will is illusory. Libet disagrees. He tentatively proposes a model through which the gap between neural activity and conscious will could be understood such that it does not preclude free will. He calls this a 'conscious mental field' (CMF) where emergent conscious experience is represented as a field. This field does not simply emerge through neural activity but affects it in turn. As Libet writes:

"The CMF theory is outrageously radical, in that it proposes a mode of intracerebral communication they can proceed without requiring neural pathways. But, as Niels Bohr remarked, a theory that is not bizarre has no chance of providing a breakthrough advance."²⁸

28. Libet: 2003, pp. 27-28.

While this may be unlikely to convince the majority of scientists, it is no less radical than the case of strong emergence. Certainly, Stanley Klein (2002) poses a suggestion that a deep understanding of emergence renders Libet's suggestions not as incompatible with scientific belief as others claim.

This issue of free will or volition is related to the problem of backward referral: If we feel something after it actually happened, how do we connect the sensation with its cause? Libet claims that the sensation, coming after the signal, covers the gap by referring back to it:

"In other words, it is the content of the subjective experience, of the neuronally delayed awareness, that is modified by the *referral* to the earlier timing signal."²⁹

29. Libet: 2000, p. 7.

In writing about Libet's lag, Massumi shows how this looping back adds up to something extraordinarily spatio-temporally complex and vague:

"Since any lapse of time is infinitely divisible, and at every instant there must be some kind of stimulus arriving through one sense channel or another, if you try to fill in what happens in the half-second lapses of awareness, things get downright hallucinogenic...Every awareness that achieves actual expression will have been in some way modulated by the swarm from which it emerged."

Massumi (2002a), p. 196.

The awareness that emerges comes from a kind of nonconscious choice, contracted and/or subtracted from the swarm, where:

"the missing half second is not missed because it is empty, but because it is overfull, in excess of the actually-performed action and of its ascribed meaning."³⁰

30. Massumi (2002a), p. 29.

If this immediate past, as Whitehead has also suggested, is "the foundation of our present existence",³¹ then those foundations are not only pre-verbal, they are pre-sensuous. They are, nevertheless, the glue of the sensuous. This glue is something Massumi names as affect:

"Impersonal affect is the connecting thread of experience. It is the invisible glue that holds the world together. In event."³²

31. "Roughly speaking, it [the immediate past] is that portion of our past lying between a tenth of a second and half a second ago. It is gone, and yet it is here. It is our indubitable self, the foundation of our present existence. Yet the present occasion while claiming self-identity, while sharing the very nature of the bygone occasion in all its living activities, nevertheless is engaged in modifying it, in adjusting it to *other* influences, in completing it with *other* values, in deflecting it to *other* purposes. The present moment is constituted by the influx of *the other* into that self-identity which is the continued life of the immediate past within the immediacy of the present." Whitehead (1932), p 136.

Massumi is making a notable leap here: he is taking the contents of the lag from the personal to the impersonal. He is moving it beyond our tiny minds and into a vast collective glue. A-massive-mind-expansion-through-all-matter. This, understandably, is somewhat mind-boggling. But in boggling the mind it opens up what matters: affect.

32. Massumi (2002a), p. 217.

The primacy of affect inflects the notion of aesthetics as a reasoning of sensation to a form of knowing that pertains to the experience of relation. Through the concept of affect, aesthetics becomes rooted in but nevertheless more than a problem of bodily sensation because affect is *inhuman* and inorganic in itself: it is collective, in that it is not owned by anyone.

33. Peirce, (1992), p. 44.

5. Attention

One important factor conditioning the experience of relation is modes of attention, involving what is included in our spectrum of attention and the way in which we configure that spectrum. Attention, as Charles Sanders Peirce wrote, "is the power by which thought at one time is connected with and made to relate to thought at another time."³³ It is a kind of cross-referencing. Understanding a circle to be nothing more than the resultant of a given system is a fairly strictly channelled, focussed cross-referencing that enables things to fit neatly into cognitive categories. To be less kind, one could call it a limited form of attention. Seeing the circle as a bundle of potential is a more broadly scoped act of cross-referencing that makes a mess of neat categories. To be less kind, one could call it a lack of focussed attention.

A key consequence of these two kinds of attention is that the former sees in terms of cause and effect, stripping away, as much as possible, the force of affect, while the later opens up potential without necessarily offering clear paths of action. Is there a kind of attention that appreciates both focussed delimitation and vague potential? This would be the kind of attention we are striving for in relation to the ethical expertise and the art of emergence discussed earlier.

Imagine a situation where we can feel cause-effect relations quite simply: if you hit a ball with a stick, it's resultant trajectory is the outcome of a relation between ball and stick that we can simply understand. There is a cause, there is an effect. This is a set of relationships that we can feel clearly, directly and maintain as discrete. Of course, in actuality, there is a far more vast set of influences that come to play, such as wind, the condition of the ball, the shape of the stick, the manner of the strike etc. But these are often subtle enough nuances for the bigger, simpler act to dominate our sense of the cause as fairly singular.

In (apparent) contrast, emergent events are the product of such a complexity of interrelation that we can't feel a discrete form of cause because they arise from a multi-dimensional field of particulars. The relations are not singular links or lines, they are patterns or textures of multiple, mostly invisible links and lines. No one trajectory can simply dominate. Weather, for example, is a moody, complex beast that is not reducible to simple cause-effect relations. Predicting the weather is always an issue of probability: of likelihood rather than certainty. Scientific methods of weather prediction have become far more sophisticated, but remain far from fail safe. But prior to weather maps and supercomputer

number crunching, people were predicting the weather, 'nonscientifically': making forecasts though 'pattern reading' the sky, the colours and shapes of clouds, the appearance of the moon, the nature of the sunset, the wind, etc. So how were they doing it? Aesthetically?

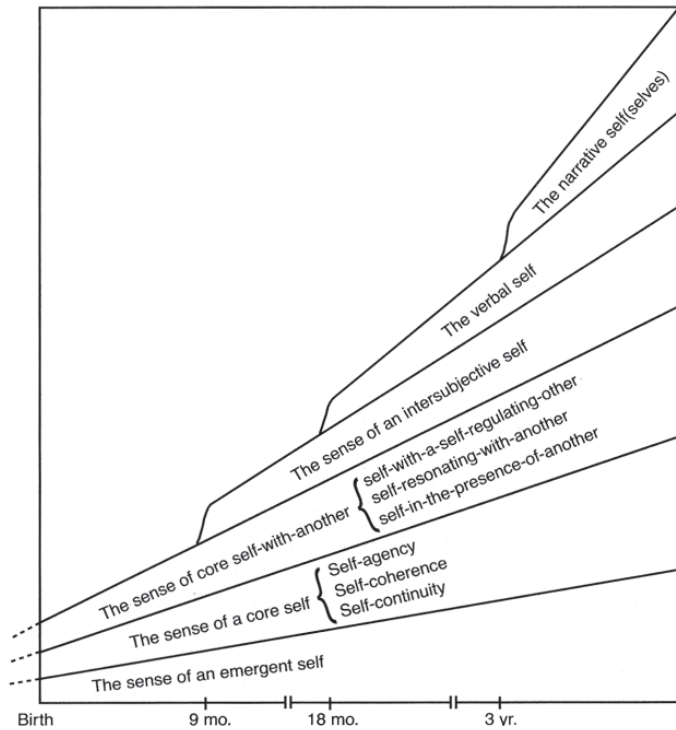
In untying the field of attention from one-to-one correspondences, emergent phenomena demand a different kind of *attention*. This form of attention involves reading patterns and/or textures and seems to be an eminently aesthetic issue.

Over this and the last act, approaches toward the phenomenon of emergence have been shifted from the scientific to the aesthetic or to the experience of (affective) relations. But the goal here is to *also* move in the other direction, allowing aesthetics to attain a fine grain of computational precision.

6. Stern and the experience of emergent process

"A crucial term here is "sense of", as distinct from "concept of" or "knowledge of" or "awareness of" a self or other. The emphasis is on the palpable experiential realities of substance, action, sensation, affect, and time. Sense of self is not a cognitive construct. It is an experiential integration."³⁴

34. Stern (2000), p. 71.



3.09 Daniel Stern's diagram of the layered domains of sense of self and the approximate age that each emerges. Once emerged, all layers are seen to coexist and mutually inform one another throughout life.

Developmental psychologist, Daniel Stern, has developed an especially useful model for understanding the operations of affect, offering some precise delimitation to affect such that it can gather some contour. His model is related to the development of self from birth to around 4 years of age. This is outlined in his book, *The Interpersonal World of the Infant*, first published in 1985 and revised in 2000. Stern's is an account of the ontogenesis of the self - or how that organization that we call the self comes into being and develops. It is a model of the experience of the self and offers some extraordinarily clarifying differentiations between kinds of relatedness, although here I will only be addressing, in any detail, the form of relatedness that operates at the foundation of his model.

While Stern's research focuses on the early development of the human child his model is taken on here for that which it has to offer the issue of relatedness to a far broader range of subject matter, well beyond the area of early childhood and into fields that do not even necessarily involve or remain limited to *human* relatedness.

Stern's theory counters the common understanding of development wherein infants gradually learn to put together diverse kinds of information from the various senses into an integrated, perceptual model of the world. The pre-integration stage is intense between birth and about two months of age, where "the infant is generally thought to occupy some kind of pre-social, precognitive, preorganised life phase."³⁵ Rather, he proposes that the newborn is in a state of

35. Ibid, p. 37.

intense integration that is gradually pulled apart into related components or *differentiated* into a more workable model of experience. Development becomes not about integrating, which is already in place, but about *differentiating domains of integration*.

This occurs in layers of developmental phases, none of which supercede the other, but join the already established layers. As can be seen in fig 3.09, between birth and the third year of age a series of layers or domains of self develop. Once formed, each layer remains active as part of the ongoing development of the self throughout adult life: "the domains remain forever as distinct forms of experiencing social life and self. None are lost to adult experience. Each simply gets more elaborated."³⁶ Each domain is effectively a *form of experiencing*, involving different kinds of relatedness, or different modes of relating.

36. Ibid, p. 32.

6.1 The sense of an emergent self

The most fundamental domain is the *sense of an emergent self*. This domain of experience constitutes the core of what differentiates Stern's model from the dominant models preceding his own. Stern writes that in the works of those such as Piaget, disparate experiences of the newborn operate as 'islands of consistency' between which the organization of experience is gradually formed;

"They thus tend to interpret the *product* of those integrating steps as the sense of self. But what about the *process* itself – the very experience of making the leaps and creating relations between previously unrelated events."³⁷

37. Ibid, p. 45.

Stern then suggests that:

"the infant can experience the process of emerging organization as well as the result, and it is this experience of emerging organization that I will call the *emergent sense of self*. It is the experience of a process as well as a product."³⁸

38. Ibid.

This 'experience of a process as well as a product' is relevant to how we gather a sense of external objects as well as to a sense of self. Clearly, there are important distinctions to be made between our own sense of self and the sense of a form's compositional coherence, one important distinction being the issue of self-perception. A sense of self is obviously a self-perception, unlike the perception of some external thing. But Stern's model asserts that the later is not possible without the former: a sense

of self is a condition of the possibility of perceiving any other sense of coherence. It is on the basis of such an argument that I highlight the relevance of the 'personal' and self-awareness in developing the sensitivity required for 'context-sensitive' relevance. This kind of awareness is important for working with Stern's notions of 'vitality affect', 'activation contour' and 'forms of feeling', that I will now discuss.

6.2 Vitality affects

"The world is not reducible to the recognized ability of objective form to conserve its sensuous identity in each of its serial locations. That ability is the product of another power: that of unrecognized, nonsensuous, affective linkages to bring "extremely diverse" nonlocal differences together qualitatively. *Affect brings form qualitatively to life.*" (my emphasis)³⁹

39. Massumi (2003), p. 146.

Drawing on a range of experiments conducted with very young babies, Stern argues that the infant is born with an extraordinary capacity for cross-modal fluency, or *amodal perception*. Here, the infant takes information received from any sensory mode and experiences it simultaneously in others, making a correspondence between, for instance, an auditory temporal pattern and a visually presented pattern. He argues that this involves a mysterious kind of *amodal representation*; one which is recognised by all the senses. As he writes:

"These abstract representations that the infant experiences are not sights and sounds and touches and nameable objects, but rather shapes, intensities, and temporal patterns – the more "global" qualities of experience."⁴⁰

40. Stern (2000), p. 51.

Amodal perception is fundamentally *affective*, pertaining to the 'force' or patterns of relations, and he approaches the workings of this amodal realm through a *quality of experience* that he refers to as '*vitality affects*'. Drawing on the philosopher Suzanne Langer, this term deals with qualities of feeling that aren't well accommodated within normative categories of feeling - such as sadness, happiness, fear, disgust etc - that are called *categorical affects* (pioneered by Charles Darwin). Vitality affects cannot be *named* in the same way, and are elusive qualities that can only be described through actions or verbs, such as 'surging', 'fading away', 'fleeting', 'rushing', 'bursting', 'tingling' etc rather than the states or nouns of categorical affects.

We are never without the presence of vitality affects, even if we are mostly not conscious of them. We feel them as part of categorical affects, in rushes of anger or waves of disgust, but we can also experience them without these categories being explicit. As an example of this, Stern (following Langer) cites abstract dance and music, where the viewer-listener is presented primarily with variations in movement, rhythm and speed, tensions and relaxations, patterns and disturbances. In not resorting to plot or explicitly designating categorical affects, the choreography negotiates affects rather than specific contents of feeling.⁴¹ Stern likens the relation between the viewer-listener and abstract dance or music to that between the pre-verbal infant and parent, where it is the *manner* of the parents performance that is primarily experienced whether, from the point of view of the parent, that behaviour is linked to some categorical affect or not. While the manner through which the most mundane things are done, such as the way in which someone walks, is always affecting how we feel about that person and what they do, this is primary for babies. For the baby, it matters little whether someone is saying the words 'everything is ok' or 'the world is falling apart'. What matters is *how* those words are spoken.⁴² Importantly, this implies that prior to the development of modes of relatedness involving, say, narrative structure and semantics, there is an abstract level of structure – or in effect, a-signifying meaning – that later comes to silently infuse and inflect all others. Vitality affects are "time-shapes" and which "lend themselves to associative networks."⁴³

41. Ibid, p. 56.

42. This notion can be illustrated by the classic lullaby: "Rock-a-bye Baby on the tree top, when the wind blows the cradle will rock, when the bough breaks the cradle will fall and down will come baby cradle and all". This lullaby has lulled many a baby to sleep. If the baby could understand the words spoken, it could very well be far too frightened to fall asleep. What matters is the manner in which this little rhyme is sung.

43. Stern (2004), p. 65.

6.3 Activation contours and forms of feeling

"Impersonal affect is the connecting thread of experience. It is the invisible glue that holds the world together. In event."⁴⁴

44. Massumi (2002a), p. 217.

Vitality affects are experienced as *patterned changes over time* which Stern calls *activation contours*. He uses the example of a parent soothing a baby by saying "There, there, there..." where the first part of the word is stressed followed by a trailing off. Similarly, the parent might stroke the baby with a series of gestures that enact a similar patterning, with each stroke decreasing in pressure. Each version of soothing, he suggests, would result in the same or very similar vitality affect experience.⁴⁵ Instead of one stroking-mother and another "there, there"-mother, the infant would experience only a single vitality affect in soothing activities - a 'soothing vitality affect mother'.⁴⁶ These activation contours are that which yoke

45. Stern (2000), p. 58.

46. Ibid, pp. 58-9.

47. Ibid, p. 54. Stern takes this term from philosopher Suzanne Langer.

diverse experiences together, linking them into a single “form of feeling”.⁴⁷ Activation contours thereby underlie vitality affects, acting as the basis of this amodal representation. When activation contours resonate together, they produce a kind of *form of feeling*, not unlike, perhaps, Heinrich Wölfflin’s idea of the ‘force of form’ discussed in act 5.

48. The Present Moment, p. 62.

A significant aspect of the activation contour is that it moves beyond subjectivity, acting as “an objectifiable time-shape of a stimulus.”⁴⁸ This way of understanding the basic makeup of affect lends itself to the ways in which those such as Brian Massumi discuss affect as “pre-personal” and “the glue of the world”. It gives an objective operational understanding to the “mysterious’ nature of amodal representation, which is argued by Stern to be, nevertheless, the *fundamental domain of human subjectivity* and the basis of all creativity:

“This global subjective world of emerging organisation is and remains the fundamental domain of human subjectivity. It operates out of awareness as the experiential matrix from which thoughts and perceived forms and identifiable acts and verbalised feelings will later arise. It also acts as the source for ongoing affective appraisals of events. Finally, it is the ultimate reservoir that can be dipped into for all creative experience. All learning and all creative acts begin in the domain of emergent relatedness. That domain alone is concerned with the coming-into-being of organisation that is at the heart of creating and learning.”⁴⁹

49. Stern (2000), p. 67.

Stern’s vitality affects and activation contours offer a way into developing Holland’s missing creative-process-model. That which *passes across* becomes understood as an activation contour, which is quite simply, a *patterned change over time*. In the matching up or correspondence of such patterns, instances are yoked together into a ‘form of feeling’ – becoming, like the “soothing-vitality-affect-mother”, a model of a recognised identity or an affectively defined entity. So, if we consider, again, the innovative, creative leap between models, what occurs is this yoking together of complex patterns into a ‘form of feeling’.

As Holland says, we just don’t know how the intuitive leap, or how the primary step of “perceiving seminal patterns” occurs. But Stern offers a detailed, empirically developed account of abstract relatedness that forms the basis of creative activity. His model incorporates both transversal pattern conjunctions (implicating Holland’s metaphoric conjunction) and a layered depth that involves both up and down movements (implicating the top-down and bottom-up actions of emergence).

A metaphoric conjunction is not an instance of one thing simply being like or imitating another thing, as we often see when new technology is used to emulate older, more familiar technologies. Innovation entails a transformative recasting. Similarly, the vitality affects of amodal perception are only tied secondarily to imitation as an albeit crucial part of the more primary operations of 'attunement.'

"Imitation renders form, attunement renders feeling," writes Daniel Stern. Attunement renders feeling because it involves an entering into a rhythm with something, into a transformational re-patterning. It is not about copying or *being* something, but about embodying, in some way, a rhythm or pattern by *transforming it into another form of expression*:

"Attunement takes the experience of emotional resonance and automatically recasts that experience into another form of expression. Attunement thus need not proceed toward empathic knowledge or response. Attunement is a distinct form of affective transaction in its own right."⁵⁰

51. Ibid, p. 145.

Amodal perception involves a range of such recastings, where diverse dimensions modulate each other into a jossle of texture in which sense gathers. It is always cross-modal: connecting into a vibrating, unlocatable atmosphere. Other terms for attunement might be 'affect matching' or 'affect contagion'.⁵¹ After the match or the sympathetic fit, it spreads like the ripples from a pebble dropped in water.

51. Stern (1985), p. 143.

Amodal perception pertains to the experience of emergence and to the kind of attention we are striving for in relation to ethical expertise and the art of emergence. They are abstract but also inseparable from embodiment and expression. Perhaps more importantly, they move across scales: working at the level of generalised vagueness but also at the level of micro-relations. Activation contours move across forms of expression such that they collaborate in the formation of emergent textures or forms of feeling.

Stern's model (and his related work with the 'Process of Change Study Group'⁵²) reiterates the earlier discussion on kinds of attention, where at the core of 'the art of emergence' are modes of relatedness that involve an intense integration (both internal to the self and of self and world) in which a whole situation is felt out, but it also points to a micro-level of detailed relational operations through vitality affects and activation contours. What he calls 'amodal perception' would seem usefully related to an attention pertaining to the art of emergence.

52. Stern et al (1998).

7. The ethico-aesthetics of emergence

Through the above emphases on modes of attention and perception, the aesthetic, like Varela's ethics, becomes quite emphatically an issue of know-how rather than simply a 'knowledge of'. It is a know-how of relatedness involving an attention to micro-patterns and rhythms as well as macro-textures. It entails a 'sense of' before a 'knowledge of' compositional coherence.⁵³ Rather than aesthetics pertaining to 'wholes' or 'unities', it becomes an embodied appreciation of complexity: of complex assemblages of dynamic relations.

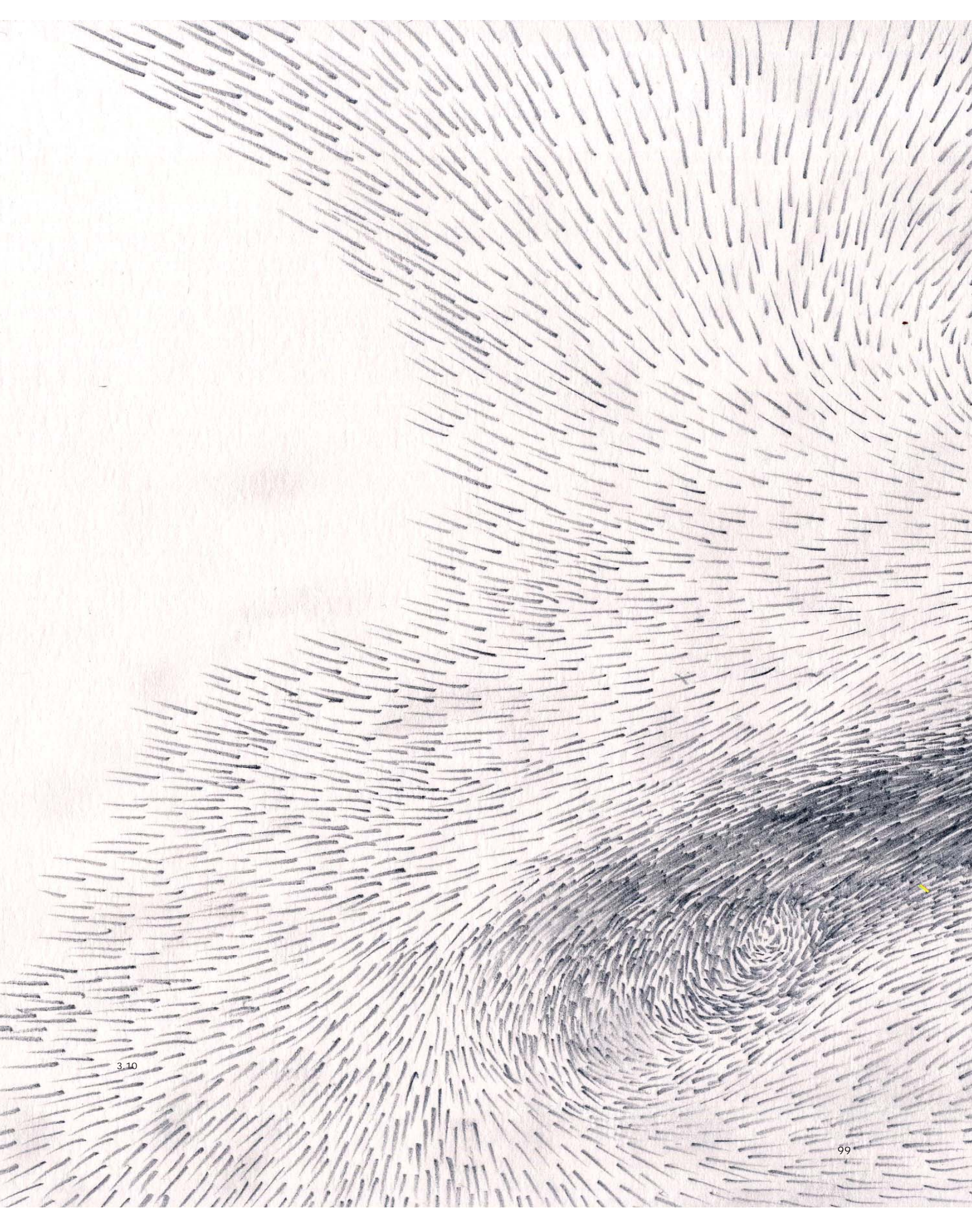
53. This shift to 'know-how' rather than 'knowledge of' is a useful move in relation to attempts to discuss aesthetics and ethics (or the ethico-political) in accounts such as Gigliotti (1995) and Eagleton (1990). The shift of emphasis on these issues made by Varela enables a more direct access to the development of pragmatic approaches to the questions raised, for instance, in Gigliotti (1995).

As a companion to the aesthetic and the ethical, *emergence* is a way of appearing, making, acting, doing; a mode of composition or an organising principle that always involves drawing forms of coherence out of a texture of collectively transformational patternings.

This drawing-out is ongoing because the emergent texture folds back to affect the complex of patterns from which it emerged. This is just as true for the apparent stability of objects as it is for tangible ephemerality such as atmospheres; one only need stubbornly regard the former in terms of a squirmingly active background that tinges its edges and peripheries with living fluorescence – even if mutedly or nominally so. In its strongest forms emergence always involves a composure that is both powerfully and delicately balanced within the ever changing dynamics of situations. By nature, the art of emergence involves riding these conditions. As such, the experienced practice of the art of emergence involves ethico-aesthetic know-how.

Ethico-aesthetic know-how pertains to our composure as tempered within the ever-shuffling textured fields of relational dynamics. It comes to bear through the manner of our engagements, our modes of attention and the dynamic balance we can strike between affecting and being affected, between active reflection and the immediacy of embodied response, between sensitive responsiveness and determined agency.

The ethico-aesthetics of emergence refers, then, to a know-how whose compositional coherence – or 'holding together' – unsettles or modulates that composure, as it folds back into itself. The crucial attention to the texture of events is not just an awareness of some 'outside' situation, because it relies on self-awareness, or a sense of the texture of the self. The ethico-aesthetics of emergence pertains to responsive, situated expression that loops back onto itself, folding other textures of experience into its transformations. This, as we shall see, is what happens with the fur fields across the trajectory of this thesis. Importantly, as Stern's work suggests, our attention needs to turn toward the experience of process.



3.10

PART TWO

Architectural Composition: expression,
diagramming and style

ACT 4. Rising out of the Affective Sea; Architectural Composition and Emergence

Act 4 is a survey of behavioural tendencies across two related areas of activity: the act of theorising architectural composition and the field of architectural enquiry I refer to as 'processual architecture.' The development of architectural composition is explored in a partial way – that is, with a particular emphasis on the role of *theorising* or articulating models of composition. The Act works through a brief history of composition theory, before mapping out aspects of the 20th century historical lineage that led to the processual architecture that emerged in the 90s. A picture of the field of processual architecture is built up while connecting this picture back to earlier compositional practices and ideas. This process is also one of gathering evidence and mounting an argument regarding the emergence of new modes of composition within the field. One of the primary issues at stake is that composition starts to operate in terms of the articulation of behavioural tendencies and the performance of processes rather than in terms of systems of geometrical arrangement. Exploring how theories of composition have behaved, or what role they have enacted in their field, leverages some analogous relationships across historical periods and within the process of composition itself. This enables me to suggest some key issues that have provoked the development of new modes of composition through processual architecture.

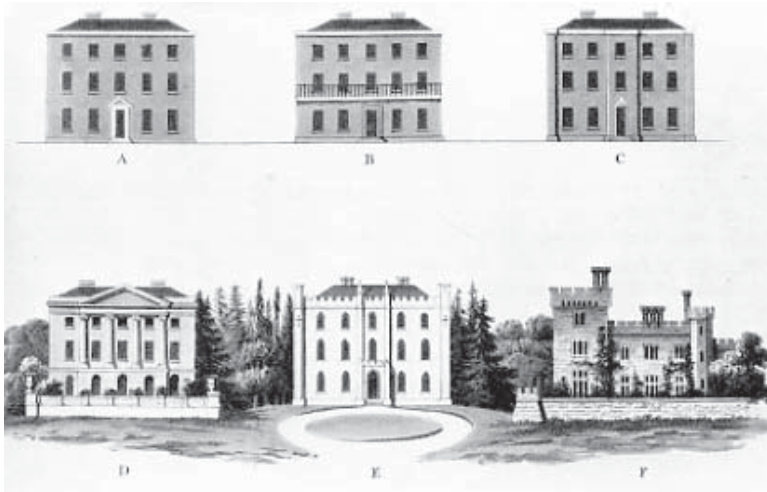
1. Composition and the ethics of emergence

“Composition is less a critical thought project than an integrally experienced emergence. It is a creative event.”¹

1. Massumi (2002a), p174

If we can say that all good design outcomes are to some degree emergent, then a full account of how their parts added up to that resulting whole would seem lost to the causal mysteries of emergence. The creative struggle to get something to ‘come together’ or to *emerge* does not get any easier when we don’t know how it happened last time. This particularly becomes a problem when we make things within a discursive community. If we have difficulty discussing how we produced something, we fall into another set of straining postures, trying to ‘pull together’ a convincing account of the thing and its process of making. The role of these articulations are significant; they offer tendrils of connection into a discursive field; casting threads into a fabric that never stops weaving. All too often, the discursive account, which is also both invented and discovered, involves pretending that what we realised at the end was what we intended all along, as if the process taught us nothing because we were, very professionally, ‘in control’ or that the process was nothing but a means to an end. Somewhere between the mystery and the pretence is the undeniable: the process of invention-discovery. We are not passive vessels for the passage of some divine creative will, nor were we entirely or autonomously in control. We *participate* in the world at every turn.

For design and composition theory, this emphasis on participation and ‘know-how’, as discussed in the last act, implicates the behaviour and performance of the designer amidst the act of designing. In the field of architectural discourse I go on to discuss as ‘processual architecture’, there is a focus on setting up conditions through which outcomes will emerge.



4.01 Humphrey Repton, 'Characters of Houses' (1816).

The performance of the designer is met with dynamic, life-like diagrams that are themselves configured in terms of behaviours and performance. Implicitly, composition becomes less of a set of rules or methodologies and more of an ethics of engagement.

Emergence, as I have earlier suggested, is implicitly a model of composition – of the way things 'hold together' – that always involves drawing forms of coherence out of a texture of collective constitution. In later acts I will argue that emergent coherence always involves conflict and incompatibilities amidst its collectivity. This act begins that argument through suggesting that new theories or models composition always emerge out of a discursive conflict in an attempt to hold incompatibilities together into the one collective field.

2. The emergence of composition theory

While composition, Robin Evans writes, "is where the geometry of architecture is usually sought,"² geometry is not always where composition is sought. In fact, the idea seemed to have emphatically arrived just as geometry was losing grip on its superior reality. Colin Rowe's essay 'Character and Composition' comes to suggest that;

2. Evans (1995), p. xxxi.

3. Rowe (1988), p. 65.

"...the word 'composition' really entered the English architectural vocabulary as a result of the formal innovations of the Picturesque, and that it was conceived as being peculiarly applicable to the new, free, asymmetrical organisations which could not be comprehended within the aesthetic categories of the academic tradition."³

Rowe observes that in early nineteenth century English publications,

"the words 'composition,' 'character,' 'effect,' 'interest,' and 'expression' are liberally scattered; and the further these architects succeed in emancipating themselves from the Anglo-Palladian tradition, the more prone they are to the use of this new vocabulary."⁴

4. Ibid

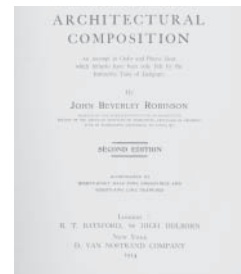
The turn to the idea of composition in the picturesque climate of the eighteenth century was related to a shift from a belief in the truth value of geometry – or form in itself – to the perception or effects of form. As part of the growing sense of a field of perceptual, picturesque movement, ties between particular formal conventions and types of buildings were loosened, giving rise to a polyphony of choice from a smorgasbord of styles. The use of the idea of 'character' and the production of a character appropriate to the task at hand prevailed as a way of holding together the mixing of stylistic manners. The idea of architectural character goes back to Vitruvius and was employed by Humphrey Repton, who popularised attention to stylistic differentiation in the early 19th century.⁵

5. Crook (1989), p24

It is important to recognise here that the rise of the idea of architectural *character* offers a no less *abstract*⁶ way of defining the aesthetic standards of architecture than mathematical or geometrical systems, it was just endowed with more movement and vagueness of measure.

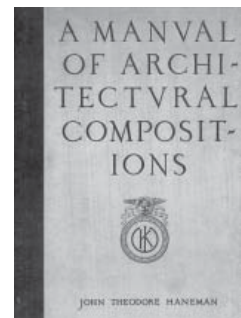
6. The way in which I understand the term 'abstract' departs from the common idea of abstraction as a withdrawal from material actuality. Rather, the abstract is transpositional or nonlocal; able to move, transformationally, through and between diverse instances. This describes the nature of affect, as embodied abstraction. For a detailed development of this understanding of both affect and the abstract, see Brian Massumi (2002a).

It was in the early twentieth century that theories of architectural composition became an explicitly intense field of academic endeavour. This peaked with a notable expansion of literature on principles of composition in architecture publications of the 1920s. These publications included John Harbeson's *The Study of Architectural Design* (1926), John Theodore Haneman's *A Manual of Architectural Compositions* (1923), Howard Robertson's *The Principles of Architectural Composition* (1924), Nathaniel Curtis's *Architectural Composition* (1926), Trystan Edward's *Architectural Style* (1926), Robert Atkinson and Hope Bagenal's *Theory and Elements of Architecture* (1926). These built upon a collection early 20th century texts such as John Belcher's *Essentials in Architecture* (1907), John Beverly Robinson's *Architectural Composition* (1908) and David Jacob Varon's *Indication in Architectural Design* (1916). An intrinsic aim of these publications is summed up in the subtitle to John Beverley Robinson's *Architectural Composition: 'An Attempt to Order and Phrase Ideas which hitherto have been only Felt by the Instinctive Taste of Designers.'*



Robinson, John Beverley (1914). First published 1908.

These texts can be distinguished from preceding compositional emphases of working from stylistic typologies, attempting to articulate underlying principles related to 'the grammar of design.' This phrase was adopted by Trystan Edward's influential treatise of aesthetics,⁷ *The*



Haneman, John Theodore (1923).

7. Howard Robertson, a principle of the Architectural Association in London, acknowledged and elaborated upon Edwards principles in his own theories of composition, similarly separating 'abstract composition' from the 'elements' of composition.

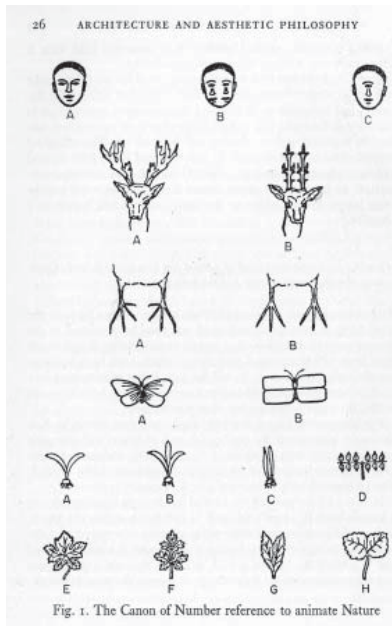


Fig. 1. The Canon of Number reference to animate Nature

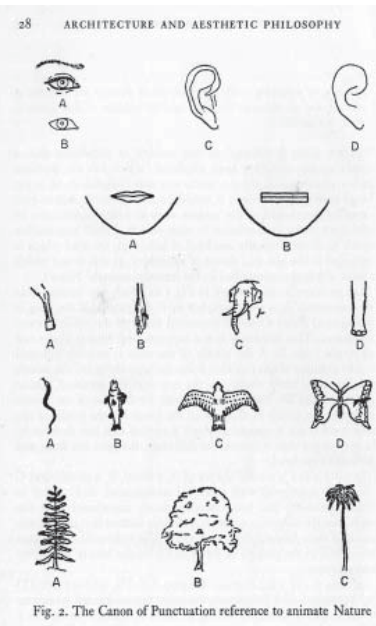


Fig. 2. The Canon of Punctuation reference to animate Nature

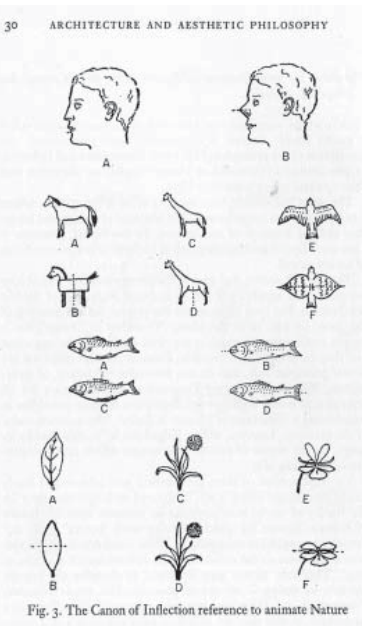
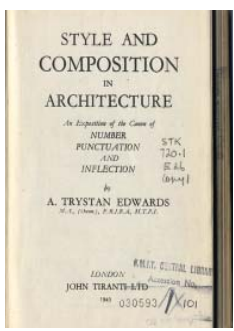


Fig. 3. The Canon of Inflection reference to animate Nature

4.02 Trystan Edwards and the principles of 'Number', 'Punctuation' and 'Inflection'.



Edwards (1945).

Things Which Are Seen (1921), which proposed number, punctuation and inflection as the foundations of beauty and vitality in architecture.⁸ Edwards later worked these principles into his book *Architectural Style* (1926) to be republished in 1945 as *Style and Composition in Architecture* and, as testament to his resilient insistence, reworked twenty two years later in *Towards Tomorrow's Architecture* (1968).

This shift toward abstract principles was deeply involved in the desire to provide a bridge with which to straddle traditional and modernist positions. Modernist orientations stood starkly against the historical backdrop of picturesque diversity. For progressive modernism it became an issue of the One outlined against the many; holding a boldly delineated stance sharply silhouetted against a blurry field of liberally remixed nostalgia. Painterly notions such as character were no longer adequate in holding this new conflict into the one field. New tools were required, which took the form of these abstract, geometrically based but plastic principles of composition. As a claim that was common to these composition theorists, Edwards proclaimed that his grammar of design, "enables us to appreciate the qualities which distinguish all manners of building whether they be past or present, of the West or of the East."⁹ On a similar note John Beverley Robinson's 1908 *Architectural Composition* denies any attempt to lay down any standard of taste, except that:

"Any system of composition to be at all valid must be independent of the variations in methods that have prevailed, and must be applicable to all styles that have existed and to all that shall thereafter come to life. Such illustrations as are given are chosen intentionally from the most widely varying types"¹⁰

8. "In so far as a building expresses these principles it seems to be imbued with vitality, but in so far as it violates them it appears dull and lifeless" Edwards (1945), p. 25.

9. Edwards (1945), pp. 27-8.

10. Robinson (1914), p. 4.

These early years of the twentieth century also involved an intense development of functionalist approaches to architecture, based on a rational and systemic analyses of the architectural program. Hyungmin Pai's historical study¹¹ argues that composition theory intensified a zone of academic architectural endeavour while keeping planning rationalization at bay: "Composition, as a set of analytical procedures and perceptual effects, could thus avoid being entangled with the rationalized procedure of planning"¹². But while it may have avoided this particular tangle, it was also a way of asserting the significance of the aesthetic within the new dance of rationalist abstraction. The new compositional principles could only straddle the competing formal positions by managing to generate a posture attuned to scientific reductionism. Edwards' 'number', 'punctuation' and 'inflection' were abstract enough to become diagrammatically active in any formal composition. They mixed the diagrammatic sensibilities of modernist abstraction with the (flexibility of) geometrical orders of historical styles.

11. Pai (2002).

12. Ibid, p106.

In 'Character and Composition', Colin Rowe also notes that "a surprising number of books upon this subject [of composition] were published during these years [1900-1930]". Alongside these texts, the manifestos of the modern movement were simultaneously proliferating. Their proximity was not a comfortable one, because, as Colin Rowe summarises:

"the most cursory reading of any of the pronouncements of the great innovators of the 1920s suggests that for figures such as le Corbusier, Mies Van der Rohe, and Gropius, the existence of any such *principles of composition* as the academicians presumed was not only dubious but irrelevant. These men were convinced that an authentic architecture could only be a rationalization of objective facts."¹³

13. Rowe (1988) p. 60

While the modernist canon threw itself into the swelling powers of rationalization with impassioned, feverish, doctrinaire embrace, theories of composition adopted a more moderate tone of tempering its advance by embedding abstract, measured attentions within aesthetic standards. Either way, but in different ways, affective intensity was fostered in partnership with the agendas of cool objective calculation.

~

In both the mid-18th century and the 1920s the idea of composition rose to the surface as part of a climate of change, where prevailing styles, sensibilities and forms of authority take a turn. Composition theory seems to be in the habit of stepping up – or emerging – when a strong sense of movement and the smell of change dominates the atmosphere.

In both cases the role of composition theory was to articulate and/or generate some kind of collectively unanimous ground. Both character and geometrically based principles offered a platform on which the contestations that emerged in conditions of conflict could negotiate their differences and remain part of a shared envelope of activity.

Furthermore, it would appear that emergence theory shares this attribute with composition theory. This affinity becomes strengthened by historical coincidence, both peaking simultaneously in the very particular climate of Britain in the 1920s. In these contexts, both were used to temper the advance of more stringent forms of scientific or modernist reductionism, while also dancing to its tune. They each carried out a similar simultaneity of defense and assimilation. In each case, the crux of the issue lies in a folding together of two different forms of knowing: the holistic, aesthetic and sensate – commonly associated with feeling – and the reductive, scientific and analytical – commonly associated with thinking. Implicitly there was an appeal to affect.

In short, I am suggesting that at the basis of both theories of composition and emergence is the fold of thinking-feeling, embodied abstraction or *affect*.

Emergence pertains to a process through which things appear, and as such implies a mode of composition or a way of doing. Composition refers to how things both ‘come together’ and then ‘hold together’ into an entity. It is about binding forces. If affect lies at the basis of these theoretical arenas, it is also their binding force. As Massumi suggests: “Impersonal affect is the connecting thread of experience. It is the invisible glue that holds the world together. In event.”¹⁴

14. Massumi (2002a), p. 217.

But while affect might be the shared binding force of emergence and composition, they are not the same thing. Composition offers emergence a model for its art; for, as Johnson put it, its “feel for the edges.” Composition has the potential, in other words, to offer emergence theory the missing model of creative process. But the potential contribution works in the other direction as well, where models of emergence offer composition a calculated, ordered precision to its processes. As I see it, the focus on models of emergence in architectural practice is striving toward making this very contribution.

3. Wittkower

If composition theory, as an area of aesthetic enquiry, always involves a negotiation of sensation and rationality this takes on a different colour in Rudolf Wittkower's, *Architectural Principles in the Age of Humanism*, which dates back to 1949, being republished in 1952 and again, revised, in 1962. This book predominantly stands as a significant reappraisal of Renaissance architecture. Wittkower delved into his subject with the aim of recasting the reputation of Renaissance architecture as hedonist or "purely aesthetic" into the more godly pose of an architecture "conceived as an image or mirror of a pre-ordained mathematical harmony of the universe."¹⁵ Wittkower's argument involved an attempt to articulate a coherent set of principles that the Renaissance masters never managed to complete themselves: "Of the architectural treatises planned by the great masters of the High Renaissance none was completed, nor has enough come down to us to gauge their opinions accurately."¹⁶ Events of the intervening period, it would seem, enabled Wittkower to turn back and scoop together the edges of an incomplete compositional agenda.

Robin Evans argues that Wittkower positions the true meaning of architecture's ulterior reality in symbolic frameworks, where the "architectural historian stood over them as guardian and expositor, protecting and perpetuating their meanings. The symbolic in *Architectural Principles* is the authorized."¹⁷ This comment is not entirely out of tune with Wittkower's own comments that the analogy between musical and visual proportion, forged through an arithmetic of mathematic ratios and fundamental to the Renaissance style as a whole, was responsible for raising the liberal arts (painting, sculpture, architecture) from a manual occupation to an academic science. It gave, in other words, an academic, scientific *authority* to architecture. This transformation, he writes, "was the greatest achievement of 15th century artists."¹⁸ According to Wittkower's account, the Renaissance architects interpreted and developed upon classical antiquity to authorize the status of their art. As Evans implies, Wittkower's admiration for this authorizing function of mathematical ratios was also an admiration for the kind of posture he took for himself. He commences the book with the assertion that "the forms of the Renaissance church have symbolic value or, at least, that they are charged with a particular meaning which the pure forms as such do not contain."¹⁹ However, this statement is a little at odds with other assertions made as the book unfolds.

Wittkower emphasizes that, for the Renaissance architects the generative use of divine proportions was based on a belief in the *actual* divinity of mathematical ratios. They were not signs of divinity stuck onto form that lacked divinity in themselves. Wittkower emphasises that:

15. Wittkower (1971). From the Introduction (no page numbers)

16. Ibid, p13

17. Evans (1995), p5

18. Wittkower (1971), p117

19. Ibid, p1 Evans' suggests that, by implication, Wittkower places academic authority as gatekeeper to that value and meaning.

20. Ibid, p. 117.

“the Renaissance analogy of audible and visual proportions was no mere theoretical speculation; it testifies to the solemn belief in the harmonic mathematical structure of all creation”²⁰

While this divine structure was undeniably transcendent, in the sense that it was understood to be the organising principle of all creation, it was also embedded enough to be inseparable from actual structure. The mathematical ratios were understood to exercise their power across and within things: they embrace and express the cosmic order, crossing not only between different types of artefact (sound-image-form) but also between artefact and the perceiving body. What mathematical ratios were for the Renaissance, is what emergence is for us today.

21. Ibid, p. 72.

What comes as a surprise given his earlier assertions that the forms of the Renaissance churches do not themselves contain the meaning they symbolically carry, is that he himself admits a belief in the efficacy of this relation between objective proportions and subjective perception, when he writes: “The geometrical keynote is subconsciously rather than consciously perceptible to everyone who visits Palladio’s villas and it is this that gives his buildings their convincing quality.”²¹ Here he seems to agree with the Renaissance architects that the use of proportional systems was “not an academic matter, but a spatial experience.”²²

22. Ibid, p. 115.

On the one hand Wittkower asserts that the symbolism is not embedded in the forms themselves and on the other, a subconsciously felt, embedded experiential reality that is an ultimate authority because, on some level, it is assumed to be universally true (being subconsciously perceptible to “everyone”). This conjunctive power in which objective proportions and subjective perception merge in a “spatial experience” that is “subconsciously rather than consciously perceptible to everyone” is the compositional score that, despite being otherwise denied, becomes revealed as if through a slip of the tongue. In his 1971 introduction Wittkower admits to a blindspot that is telling:

23. Wittkower(1971), From the Introduction (no page numbers).

“When I wrote this book, the close link between proportion and perspective in the minds of Renaissance thinkers had not fully dawned upon me. It occurred to me only later that probably Brunelleschi himself and certainly Alberti, Piero della Francesca, Leonardo, and others had seen this problem very clearly and studied it intensely. They saw no contradiction between objective proportions and subjective perception”.²³

Neither, it would seem, does Wittkower actually see a contradiction. Perspective offered a degree of 'proof' regarding the lack of contradiction between objective proportion and the ability to objectively, mathematically, measure out the subjective terrain of the individual view point.

While Wittkower did not use the word 'composition' in any way central to his arguments, his propositions were implicitly motivated toward promoting that which composition always draws upon: embodied abstraction or *affect*.

4. The growth of systemic analysis

After their simultaneous peaking, the parallels between emergence and composition theory continued as they both 'went under'. By the end of the 1920s, the more radical forms of modern architecture landed in Britain and composition theory was increasingly dismissed. Similarly, the use of the word 'emergence' as a subject of philosophical debate quelled in the late 1920s. Debates regarding emergence came back into active currency in the 1990s, when it proliferated exponentially across diverse fields of research. In the interum fifty or sixty years, a series of mathematical, scientific and philosophically intertwined fields accumulated a range of concepts, tools and techniques which provided the ways and means to reveal factors involved in the production of emergent phenomena. Jeffrey Goldstein's 'Emergence as a Construct: History and Issues'²⁴ offers a useful (even if contestable) mapping of these mathematical and scientific roots of late twentieth century emergence theory (Fig 4.03).

24. Goldstein (1999), p. 53

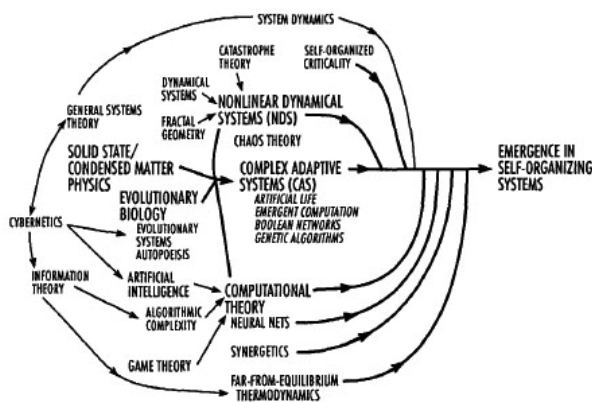


Figure 2 Mathematical and scientific roots of emergence

4.03 Goldstein's diagram of the mathematical and scientific roots of emergence.

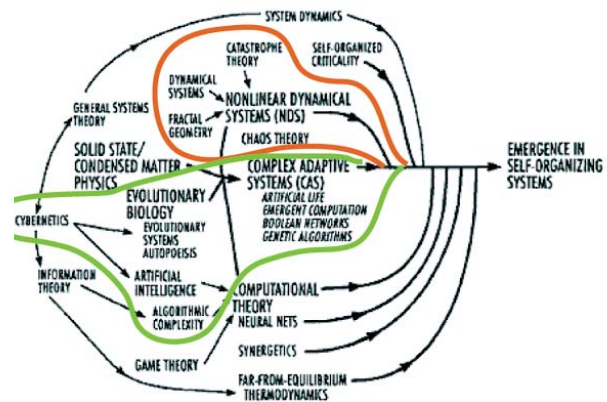
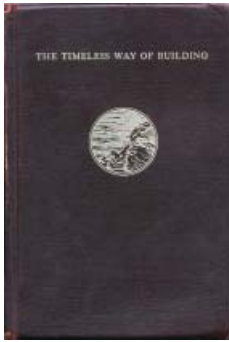
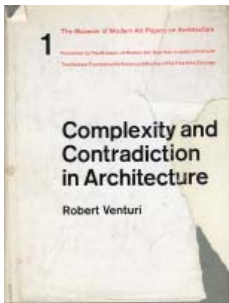


Figure 2 Mathematical and scientific roots of emergence

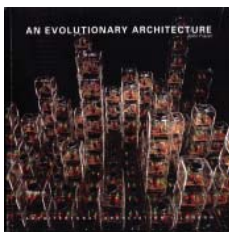
4.04 Goldstein's diagram with specific zones indicated (by author).



Alexander (1979).



Venturi (1966).



Frazer (1995).



Cook (1967).

25. Ostwald (1998), p. 58.

26. The limits of Ostwald's analysis of the connections and borrowings between complexity science and architecture were defined by his delimitation of the term 'complexity science' as referring "only to the combination of chaos theory, nonlinear dynamics and fractal geometry" Ibid, p. 54.

27. Frazer (2001), p. 643.

28. Cook (1967).

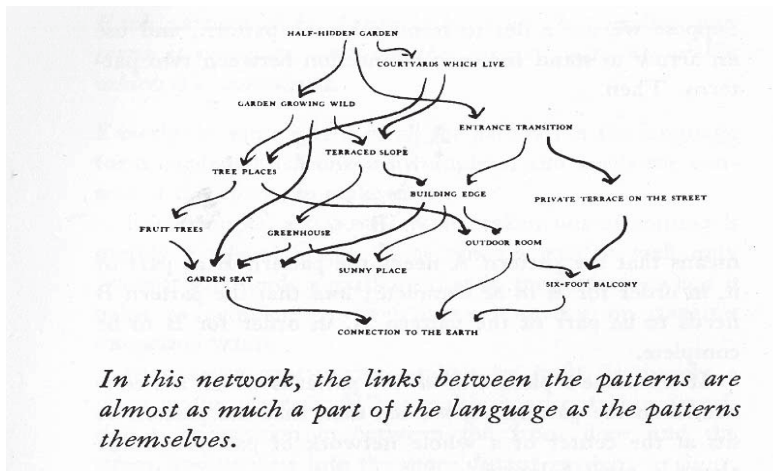
Relations between those early discursive fields mapped by Goldstein and architectural practice and discourse gathered force in the 1960s. In relation to social theory and urban planning, the work of Jane Jacobs, most famously her *The Death and Life of Great American Cities* of 1961, was a work that brought the notion of self-organising systems to urban systems thinking. Michael Ostwald's doctoral thesis, *Multidirectional Appropriations of Theory between Architecture and the Sciences of Complexity*, clusters together the works of Jane Jacobs, Robert Venturi, Christopher Alexander and Lucien Kroll as those comprising "the canon of architectural complexity prior to the influence of various appropriations, slippages and migrations from Complexity Science."²⁵ which included the work of Peter Eisenman, Charles Jenks, Ushida Findlay and Co-op Himmelblau, amongst others.

The architectural influences and associations explored by Ostwald can be located within a particular region in Goldstein's diagram (non-linear dynamical systems and the nodes that hover about it - see fig 4.04).²⁶ But there is another lineage that traces a path from cybernetics, through both evolutionary biology and computational theory as it heads toward emergence.

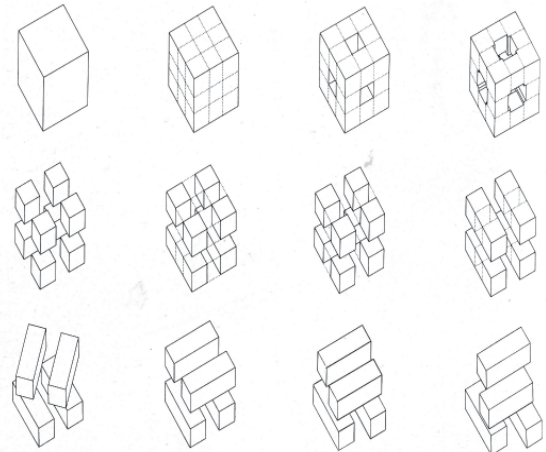
One figure whose history spans much of this lineage is John Frazer, who was a student of cybernetician Gordon Pask. His *An Evolutionary Architecture* was published in 1995, a culmination of work than began thirty years prior when he arrived at the Architectural Association (AA) in London as a student. Frazer's work reaches back to the 1960s when the AA was preoccupied with, as he describes: "issues of flexibility, impermanence, prefabrication, computers, robotics, and a global approach to energy, resources and culture."²⁷ Needless to say, forty years after Howard Robertson's 1924 *Principles of Architectural Composition*, later a principle of the AA, the scene had undergone quite radical change.

Frazer locates Gordon Pask's essay, 'The Architectural Relevance of Cybernetics' published in 1969, as the key marker in the unfolding of a development of architecture and cybernetics. Here Pask claims that a desire for systems oriented thinking was implicit to much of the novel techniques developed over the previous 80 years or so, but that there was no theory for this. Pask cites the Fun Palace, a project he was involved in with Cedric Price from 1960, as a key example of the systems thinking in architecture at the time.

Publicly unfolded in 1961, the Fun Palace coincided with the launch of Archigram, who shared an orientation toward architecture as event and mobility. Peter Cook's 1967 book, *Architecture: action and plan*,²⁸ congeals a certain attitude of the time toward architecture's transient, responsive, reconfigurable future. His book brings together very diverse architectural examples that thread together, he writes, through the "search for absolutes



4.05 Network diagram by Christopher Alexander.



4.06 Peter Eisenman, House IV (1971).

[which] lies behind most experimental or definitive architecture."²⁹ This statement implicates 'experimental and definitive architecture' in the project I am claiming for composition theory.

29. Ibid, p. 5.

In other diverse examples such as Christopher Alexander, Eisenman and the 'ekistics' of Constantinos Doxiadis there is a common orientation toward diagrammatic analysis, where new techniques and approaches toward the understanding of architectural problems were developed, as well as new diagrammatic modes of generating architectural solutions. The 1960s and 70s were obsessed with diagrammatic, analytical, systemic processuality. The aesthetic dimensions of these discursive developments operated largely in a *covert* rather than an articulated manner. The embodied abstraction that operates at the folding core of both emergence and composition was not exactly suppressed, but it was, on the whole, denied acknowledgment.

In terms of the discursive developments that subsequently unfolded after the 1920s stylistic clash, modernism's triumph thoroughly installed into architectural discourse a rejection of aesthetic categories over more scientifically oriented standards of measure.³⁰ In 1947, Siegfried Giedion noted that:

30. Peter Downton has related to me that when first tutoring in architectural design at the University of Melbourne in 1973, they were expressly forbidden to make aesthetic comments on student work, having to confine themselves to functionally related issues with some basis in science

"In our period, feeling seems to be much more difficult than thinking. Man is able to invent nearly everything he wants in science and in all kinds of gadgets; but as soon as we approach the emotional, or, if you prefer, the aesthetic sphere, we meet the strongest resistance...The result is that aesthetic values born out of the spirit of our period remain ignored."³¹

31. Giedion (1958), pp68-69

But quite obviously, a strong aesthetic consistency operated at the core of the canons of modernist architecture, which most certainly amounted to a recognizable and acknowledged (international) style. However, in what amounted to a pathological denial, architecture became strangely ill-equipped to account for its aesthetic dimensions; a state of play, I would argue, that architecture is only now showing some nascent signs of recovery.

5. Processual architecture

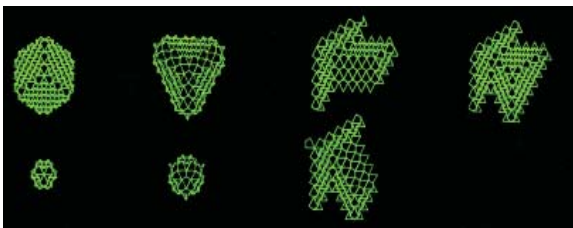
Alongside the resurgence of debates regarding emergence, which is inseparable from developments in digital technology, the 1990's involved a significant shift in the status of digital tools for architectural practices. They moved from periphery to centre stage, from anomaly to everyday.



4.07 John Frazer, digital models.

This leap of presence primarily shifted drafting from drawing board to computer, which, along with companion email and network practices and the gradual digitisation of construction processes, ushered in significant shifts in the flows and rhythms of practice. On the edges of conventional practice and at the centre of avant-garde discourse, the opportunities offered by digital tools for the purposes of generative architectural design processes were being more avidly explored.

John Frazer's work is amongst the earliest research to investigate generative design systems using genetic algorithms. In developing an "evolutionary model" of architecture he recommends that the "concept is process-driven; that is, by form-generating rules which consist not of components, but of processes."³¹ The final section of Frazer's text, titled 'Characteristics of the New Architecture', which takes up little more than one page of the entire book, clearly demonstrates a reticence to offer an image of how these processes might be formally inclined. He writes:



4.08 John Frazer, 'Reptile Structural System' (1966 +).

"In the systems we have been discussing, global behaviour is an emergent property often unpredicated by local rules. In the same way, the emergent architecture will also be unpredicated. It is tempting to show examples or simulations of what the new architecture might be like, but the emphasis at this stage must be on process, in order to maintain the universality of the model."³²

31. Frazer (1995), p. 65.

32. Ibid, pp. 102-103.

Frazer's approach assumes that the designer is not directing these processes with a target in mind, but that it must simply 'emerge' through the mechanics of process. He offers some description of what the process model will operationally do, in terms of exhibiting metabolism, its feedback interactions with the environment and so on. However, these processes are described in largely reductively mechanical terms, resisting any appeal to aesthetic properties or to the experience of these relations.

As much as Frazer was a clear pioneer of the field, Greg Lynn had a deeper and more influential impact. Via the publications *Folding in Architecture* (1993) and *Animate Form* (1999), Lynn's contagious move was to link technology, technique and philosophy, offering both ways of doing and modes of thinking. This particular nexus within architecture was an invention we can attribute to Lynn, albeit with crucially significant contributions from those around him. In *Folding in Architecture*, Lynn explicitly claimed that 'Folding' was taking over the position that 'Deconstructivist Architecture' had previously held in architectural discourse. Like a newly configured wave passing through the same waters, many of the same designers



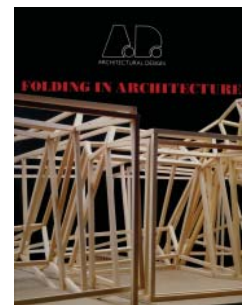
Lynn (1999)



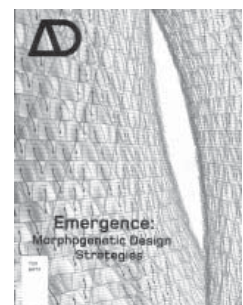
4.09 Greg Lynn, 'Stranded Sears Tower'.

were cited as exemplary. Peter Eisenman, Frank Gehry and Philip Johnson remained involved. As the field developed, the work of Bernard Cache, Marcos Novak, Karl Chu, Ed Keller, Lars Spuybroek, Mark Goulthorpe, Mark Burry, Tom Kovac, Stephen Perrella, Reiser and Umemoto, UN Studio, Stan Allen, Jeffrey Kipnis, Sanford Kwinter, Manuel DeLanda, Michael Speaks and Brian Massumi were some of the more obvious contributors, many of whom made contributions that acted as precursors to Lynn's book, which deftly 'solidified' trends that had been moving in that direction. Other experimental practices like Diller and Scofidio, Arakawa and Gins, Ashton Raggatt McDougall and Minifie Nixon have, I would suggest, tinged the peripheries of this field with idiosyncratic but deeply relevant work. A cluster of younger or more recent architectural practices, such as biothing, kokkugia, Arandah/Lasch and the 'Emergence and Design Group' are explicitly claiming processes of emergence as central to the concerns of their research.

All of this work could be loosely clustered together and tied back to much avant-garde work of the 60's, under the name of 'processual architecture.' This naming acknowledges its association with process philosophy and



Lynn (1993)



Hensel; Menges; Weinstock (2004)



4.10 Lars Spuybroek, Water Pavilion.

its characteristic tendency to privilege things 'in process'. The formation of the field was characterized by kinetic objects and animated diagrams, moving and gyrating in differentiating fields of data. Architectural artefacts became more life-like, bringing the *process of formation* skyrocketing into the foreground in a literal and visible sense. More commonly, this field of work is referred to as 'digital architecture', but in naming the field otherwise, we dislodge the centrality of digital technology, without removing its significant role. As stated earlier, it seems clear that digital technology is not the primary issue being explored by this field of work, but simply a significant part of the equation. All the work in this cluster of experimental architecture – in varying ways and degrees – foreground *processes of formation* as constituting key properties or defining conditions of the product. Built outcomes become emphatically responsive, interactive and/or experientially challenging, while design processes become products in themselves. As an extension of the systemic processuality and emphasis on responsivity in the 1960s, this field of work operated to further unsettle the clarity of distinction between process and product.

The discourse of 'Folding' signalled the desire to incorporate disparate elements into smooth mixtures, melting the fissures and shards of deconstruction into a liquidity of form. The desire for continuity and processes of transformation was widespread in the 90s. In addition to the temporal forms of continuous transformation in digital animations, its formal manifestation appeared in a proliferation of uninterrupted, modulating surfaces. Buildings became endless ramps and floors, walls and ceilings folded into one another. The explicit nature of the desire to produce smooth unities that incorporate difference meant that curvilinear geometries were an obvious formal language, given that the gradations and inflections of curves precisely enact differentiated but smooth continuity. Through their intertwinement with digital tools curves became smoother, tighter, more malleable and more elegant postures than the kindred blob eruptions of the 1960s. This was often connected the emerging field of interactive architecture – so influentially marked by Spuybroek's Water Pavillion (1993-1997) and Goulthorpe's Aegis Hyposurface (1999-2001), which involved significant input from Mark Burry. This trajectory is currently being extended and developed by a set of related younger practices such as SERVO, biothing and The Responsive Systems Group.³³ The general area is being developed through the numerous new degrees being offered in interactive architecture through Architecture Schools and is registered in publications such as, amongst increasingly numerous others, Lucy Bullivant's *4D: Interactive Architecture* and Ruairi Glynn's blog, *Interactive*

33. see Hight; Perry (2006).

Architecture dot Org.³⁴ Glynn notes that within this new field emerging within architecture: "Instead of defining a fixed architectural product it is an architecture in constant flux best suited to prototyping and semi-permanent installations."³⁵ Architecture becomes *performative*, a term that has increasingly bled into the literature devoted to ideas about more building-centred architectural speculations, such as in Kolarevic/Malkawi (2005), Rahim (2006), Hensel et al (2004), Hensel et al (2006).

The significance of the dynamically interactive capacities of digital technology is not simply about the ability of artefacts to perform in terms of literal movements, nor is it simply about the ability to produce new, digital design systems and formal complexity. The field takes on a deeper complexion when seen as a development upon the emphasis on performance, action and ephemerality in the 60's, evident in the adaptable, mobile architectures, installations and urban systems planning by those such as the Eames, the Situationists, Cedric Price, Peter Cook, Constantinos Doxiados, the Metabolists, Archigram and Buckminster Fuller.³⁶ The emphasis on behaviour and performance starts to flip the problem of composition from a formal arrangement into the more behavioural and ethically inflected terrains of 'composure' or poise. In Kolarevic and Malkawi's *Performative Architecture: Beyond Instrumentality* (2005), they recognise "an interesting gap in the aesthetics (and ethics) between form-oriented or cultural performance-oriented designers (Frank Gehry, Greg Lynn, etc) and those whose work aims at environmental performance (Thomas Herzog, Glenn Murcutt, etc.)"³⁷ The divide articulated here is one where the later kind of performative emphasis tends toward very linear but textured form with an emphasis on physical materiality, whereas the former tends toward curvilinear, smooth form with an emphasis, as I am arguing here, on virtual materiality (or affect). This divide is an old one referred to earlier and that I later discuss, via Reyner Banham, as a battle between the 'hardies' and the 'softies' and, via Wolfflin, between the linear and painterly styles. It is in the gap between this enduring stylistic opposition that a collectively unanimous ground of affect has been iteratively developing through the articulation of models of composition.

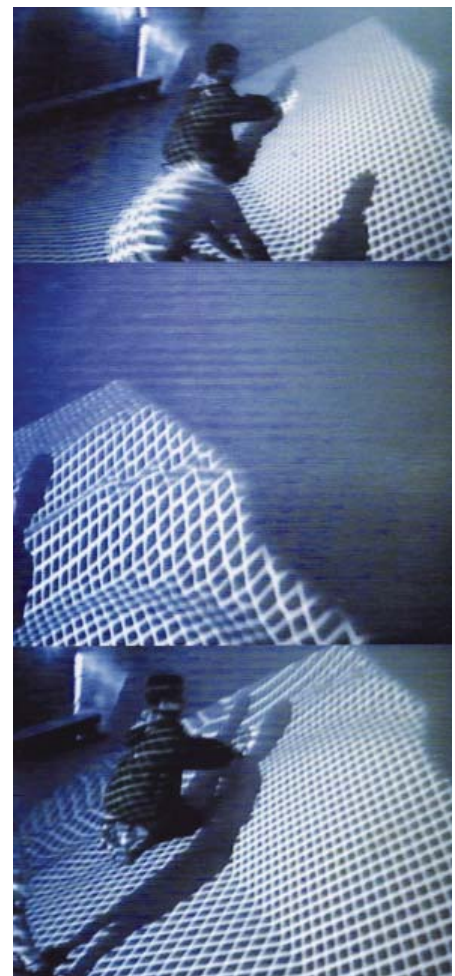
It should be mentioned here that an extremely rich and diverse field of 'new media art' presents similar issues and tendencies to that of processual architecture. An especially relevant account of this terrain and the issues therein can be found in Anna Munster's *Materialising New Media: embodiment in information aesthetics* (2006). In this book, Munster discusses a range of works, including some from architects such as Greg Lynn, in terms that have significant affinity with this thesis. Given

34. <http://www.interactivearchitecture.org>

35. <http://www.interactivearchitecture.org/about/> (last accessed April 13, 2007)

36. As superbly discussed by Mark Wigley (2001), the network or patterned/textured field was a key figuration amidst these works.

37. Kolarevic: Malkawi (2005), p210



4.11 Lars Spuybroek, Water Pavilion interior shots.



4.12 Posters for 'Intimate Transactions' and 'Skins of Intimate Distance' (projects discussed in Part 3 of this thesis).



Munster (2006).

the close proximity of my own projects (those discussed in Part Three) to new media installation art, it may seem odd that I have not explored the terrain of new media art, particularly given the important presence of 'interactive architecture' in the field 'processual architecture', where quite a literal overlap exists.

However, not only has Munster approached this subject fulsomely already, in exploring the work of others, I made a decision to remain focussed largely on projects by architects (largely by Greg Lynn) with more 'static' outcomes. This is, in part, due to a practical need to limit scope. But this focus is mainly because in shifting from the emphatically moving to the apparently static, problems of translation become especially acute. As such, there is a special interest here in the relationships between the design process and built or constructed products of those processes. As I will go on to discuss in more detail, the field has afforded a great deal of attention to the designing of the design process (in what became known as 'designing the design'). But what the field also raises, and which emergence brings forward, is that the product or the outcome of any such process needs to be approached as processual as well (even if it stands still in the material sense). This relationship has a peculiarly poignant status within the practice of architecture because it almost always must straddle a divide between what architects do (produce designs through 'drawings' of some kind) and what they produce (buildings and related artefacts). It is because of, and through, this gap or pronounced act of translation that an awareness of the binding consistency of affect becomes, as I will go on to argue, especially necessary.

Where my own project work very emphatically enters the field of new media interactive installation art (*Skins of Intimate Distance* and *Intimate Transactions*), what I draw out of them is deeply influenced by this interest in problems of translation and its peculiarly acute presence in architecture.³⁸ It is through my project-based research that I can enter,

38. This is not to say that problems of translation are not present in all other creative practices, but simply that it becomes especially acute for architecture.

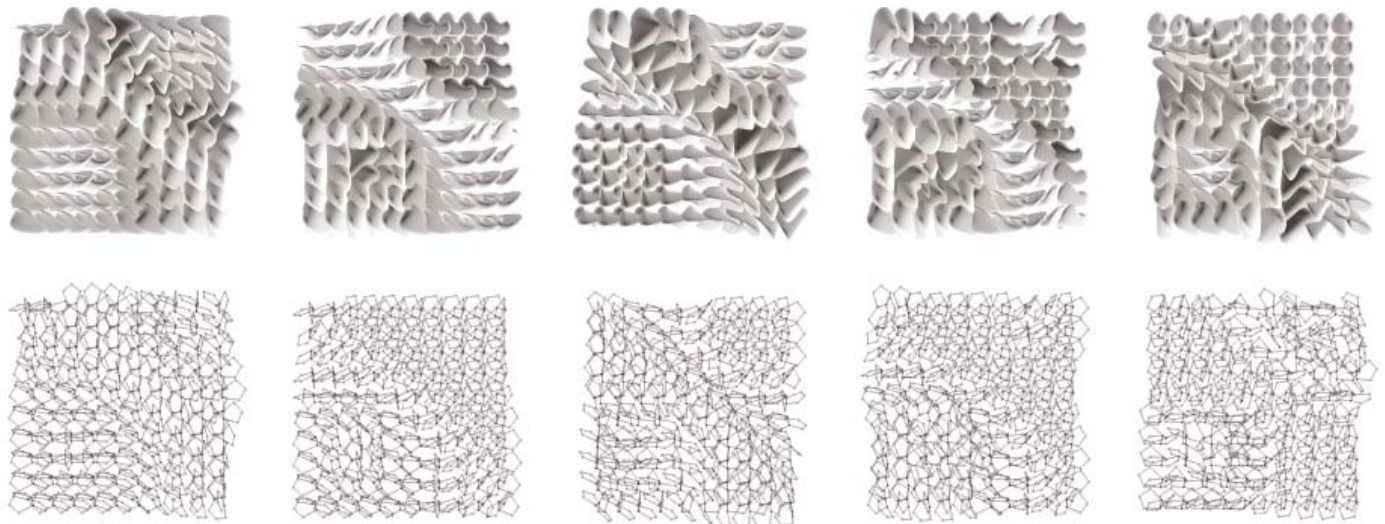
experientially, into the zone between the emphatically moving and the apparently static to articulate the places, ways and means through which to gather an embodied awareness of affectivity or what I go on to discuss as 'affective diagramming.'

6. The return of Composition theory

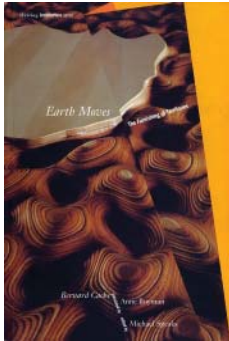
"Figures become more intricate, motives intertwine, the order of the parts is more difficult to grasp...this is connected with the principle of the avoidance of absolute lucidity...it becomes increasingly difficult for the individual parts to assert their validity as plastic values; a (purely visual) movement is set going over the sum of the forms, independently of the particular viewpoint. The wall vibrates, the space quivers in every corner."³⁹

39. Wölfflin (1950), p65

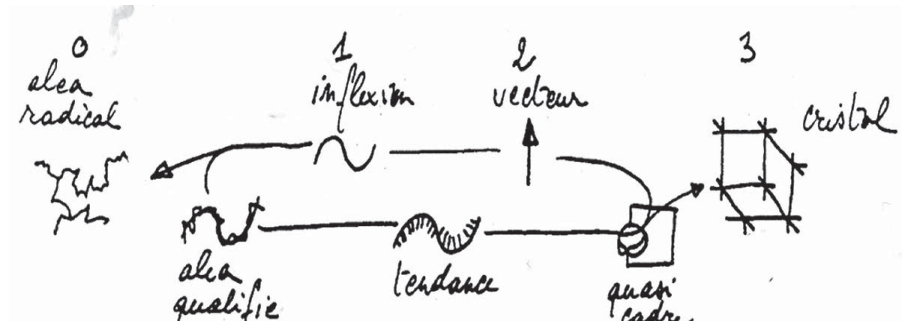
In this act I have suggested that composition and emergence theory are historically and philosophically linked. If the past is an indication of an ongoing pattern, then the discursive return of emergence in the 90s, would suggest that composition theory might have similarly enjoyed a return of interest. The development of new theories of composition has, as I will go on to argue, been an implicit project of the experimental architecture that began unravelling in the mid-1990s.



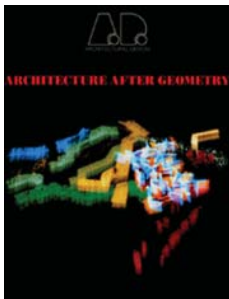
4.13 Alisa Andrasek/biothing, The Invisibles animation (2003). A series of morphologies from the animation showing both the 'rendered 'skin' and the 'bones' that underlie that skin.



Cache (1995).



4.14 Diagram drawn by Bernard Cache.



Bates; Davidson (1997).

A defining moment in this regard arrived in 1995 with the important little book by Bernard Cache, *Earth Moves*,⁴⁰ in which he unravels a classification system of architectural 'images', pertaining to Deleuzian philosophy. His system is implicitly a theory of composition in the sense that his 'images' operate as abstract principles for architectural operations, with a special attention to a *liquid ground* of action pertaining to the primary image of inflection. Interestingly enough, Cache's three 'images': vector, frame and inflection resonate with Trystan Edwards' three principles of number, punctuation and inflection. Cache's manuscript was written in 1983, but it was not published until 1995, in the wake of Lynn's *Folding in Architecture*, both surfing an explicit relation to Deleuzian philosophy.

A resurgence of discursive interest in the diagram in the late 1990s/early 2000s, was another emphatic sign of a broader reappraisal of compositional principles that following in the wake of *Folding*. I discuss this area of discourse in the next Act. Along a philosophical vien, Brian Massumi has extended the architectural discourse on diagramming into a concept of the 'biogram' as an experientially based compositional guide.

In the Architectural Design publication *Architecture After Geometry* (1997) edited by LAB architects (Donald Bates and Peter Davidson), the subject of composition also crept out of the background of Lynn's *Folding in Architecture* (1993). LAB's editorial discusses it as " a companion issue... that chart a similar, or at least a congruent territory."⁴¹ This territory, they claim, is defined by the adoption of new techniques and tactics of architectural production that work against more established relations between architecture and geometry, through which the transcendental imperatives of geometry can be disrupted. While admitting that architectural production ends in geometry, they insist it need not start there. Rather, one can start with the production of texture fields, from which geometrical form is drawn out. In other words, it emerges:

40. This book was originally written in 1983 in French under the title *Terre Meuble* but was first published in English as *Earth Moves* in 1995.

41. Bates (1997), p. 11.

42. Ibid.

43. Allen (1997), p. 24.

44. Ibid. p. 29.

45. I have found students often referring to this paper in recent years. It also appeared in the reading list for Alisa Andrasek's *Material Potency* studio at RMIT in 2005.

46. Allen (1997), p. 24.

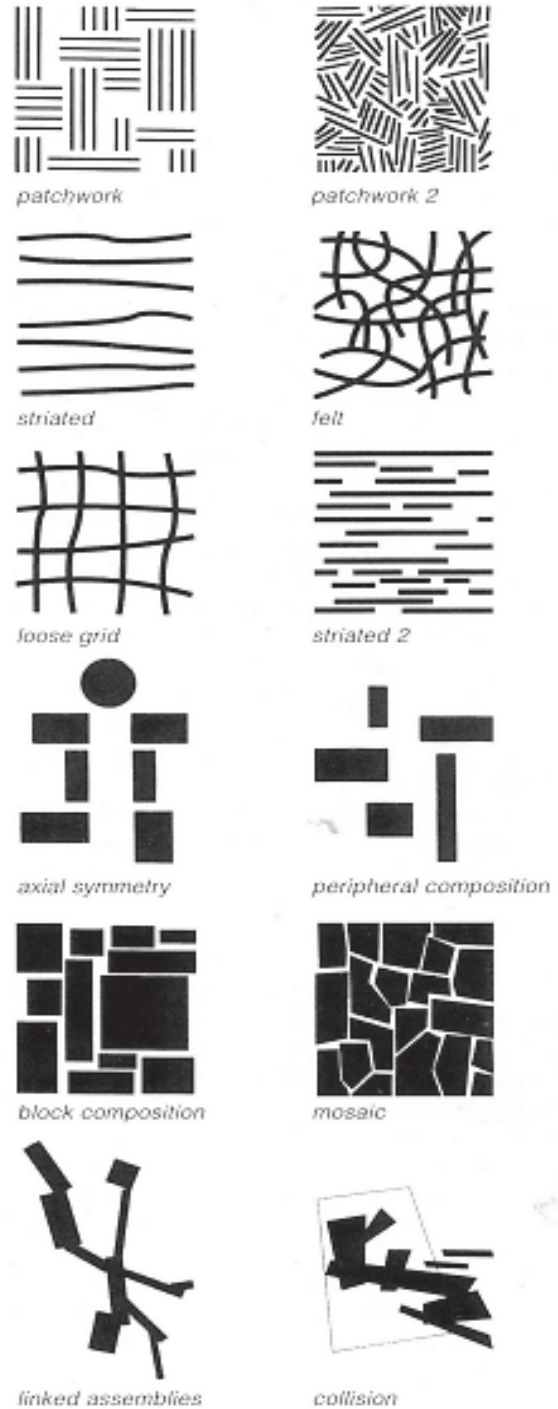
“Rather than an operation circulating around degrees of correspondence to a pre-existent figure (grid, axis, concentric layering, symmetry, etc) the development of graphic space, liquid space, texture fields, pattern effects and field conditions is possible only in a context of emergent readability.”⁴²

This book was full of textures, patterns, fields and swarms presented as generative, performative diagrams. The essay from Stan Allen in that publication, ‘From Object to Field’, remains one of the more useful and influential texts for processual architecture. While Allen makes the cautionary point that field conditions “cannot claim (nor does it intend to claim) to produce a systematic theory of architectural form or composition”⁴³ his essay concentrates on architectural composition as the main issue and makes the following distinctions:

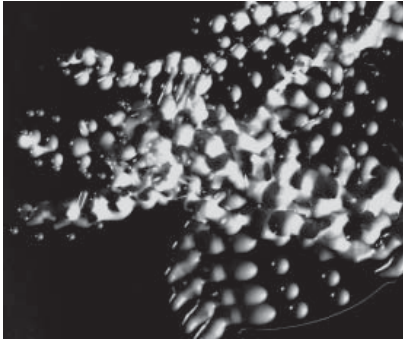
“If classical composition sought to maintain clear relations of figure on ground, which modern composition perturbed by the introduction of a complicated figure against figure, with digital technologies we have come to terms with the implications of a field-to-field relation. A shift of scale is involved and a necessary revision of compositional parameters implied.”⁴⁴

One of the reasons that this essay remains popular 10 years later,⁴⁵ is that he is acutely aware of the relationship between the field condition and emergence: “Field conditions are bottom-up phenomena: defined not by overarching geometrical schemas but by intricate local connections.”⁴⁶ But, as Allen says, his essay offers working concepts, which may change in their encounter with the realities of practice.

Allen superbly discusses the field condition in relation to a broad range of architectural, art and urban examples. But how the field condition might operate within a meaningful process through which to generate a building is not something he addresses. That issue is left to other parts of the book.

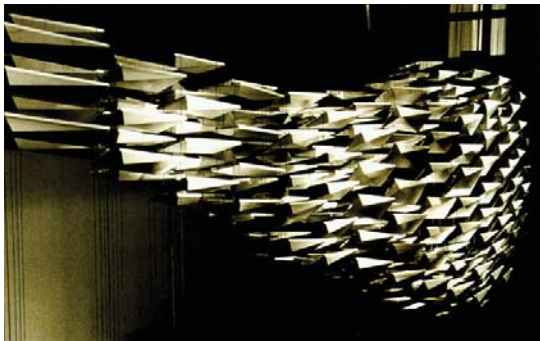


4.15 Images accompanying Stan Allen's essay 'From Object to Field'.

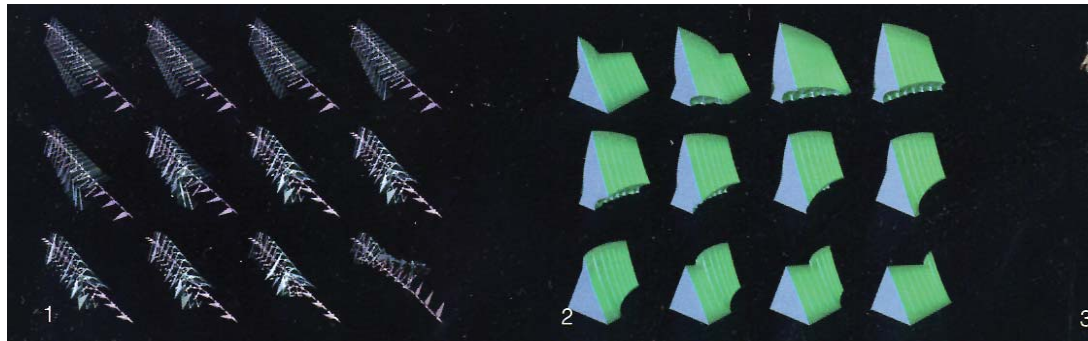


4.16 Greg Lynn, Bucharest urban design competition study using particle animation flows to define variable densities across site.

The object cast in a *field* is a key property of processual architecture. This operates as forms that emerge through a field of spatial influence and/or in an experiential body-architecture field. This emphasis became powerfully motivated by Lynn's call to work with a dynamic materialist space of forces, in which the object is part of, rather than separate to, the space in which it comes into being. In Lynn's work, however, much of this field condition remained hidden in the black backgrounds of the digital animations. Spatial texture in itself was not visualised, but implied and made active in the effects it had on the forms within it. With *Architecture After Geometry*, the field of spatial texture was foregrounded as a formal device where a field of relations becomes visualised and central to the design process.



4.17 Jeff Kipnis's 'School of Fish' display system-sculpture.



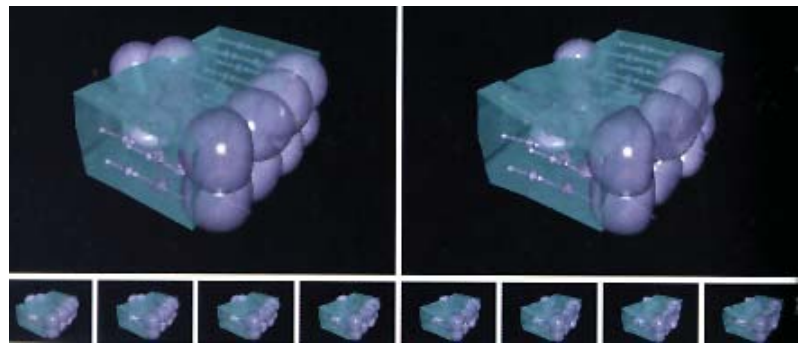
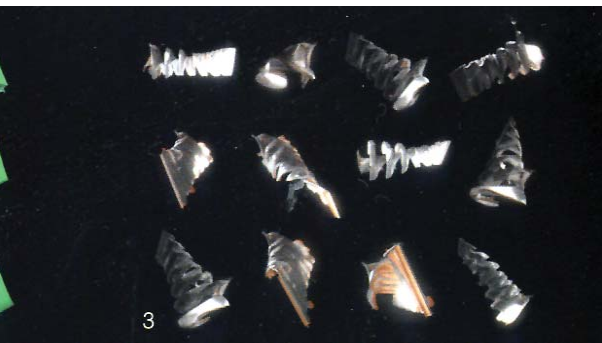
4.18 Greg Lynn, House Prototype (1994).

With the exception of Jeff Kipnis's 'School of Fish' display system-sculpture and Greg Lynn's 'Hydrogen House' and related generative process, work in this book is largely mobilised through plan-based investigations. Graphic texture fields become the material from which form is drawn out, predominantly through extrusion. From a compositional perspective, it's interesting to note that these graphic fields are employed in a way that can be likened to the old Beaux-arts methods of *indication*. David Varon's *Indication in Architectural Design* (1916) promotes the technique of indication as the graphic and visual skills involved in "training the eye and hand."⁴⁷ This involved the drawing out of form from the simpler, more diagrammatic lines of the esquisse. In public lectures Donald Bates and Peter Davidson have often discussed "hand to eye coordination" in relation to their design processes, which begin with graphic textures out of which a developed architectural proposition is gradually drawn out. Some interesting relationships with some pre-modernist, traditionalist approaches to architectural composition become implied here.

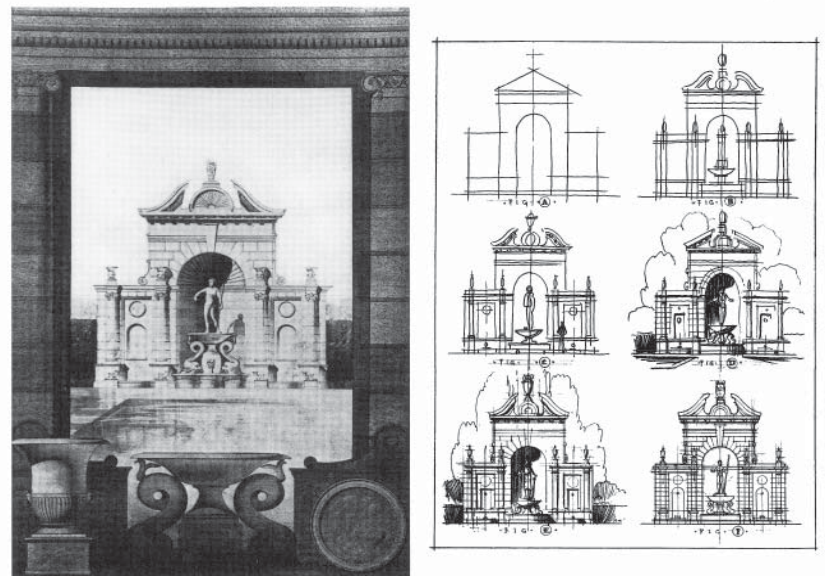
47. Varon (1916), p. 19.

As Hyungmin Pai puts it: "we must remember that the essence of Beaux-Arts vision was in the ability to see and draw through the density of overlapping traces, to envision the possibilities within the lines and surfaces."⁴⁸ The problem of drawing form out of textured fields is an endemic one for processual architecture. But while the Beaux-Arts methods of indication begins with a fine skeletal frame or rigid boundary within which the lines and surfaces gather density through the enumeration of detail, these contemporary methods of 'drawing out' will tend to be intricately detailed before becoming simpler. But of greater significance is the melt down of the rigid frame, which will deform and develop as part of

48. Pai (2002), p62

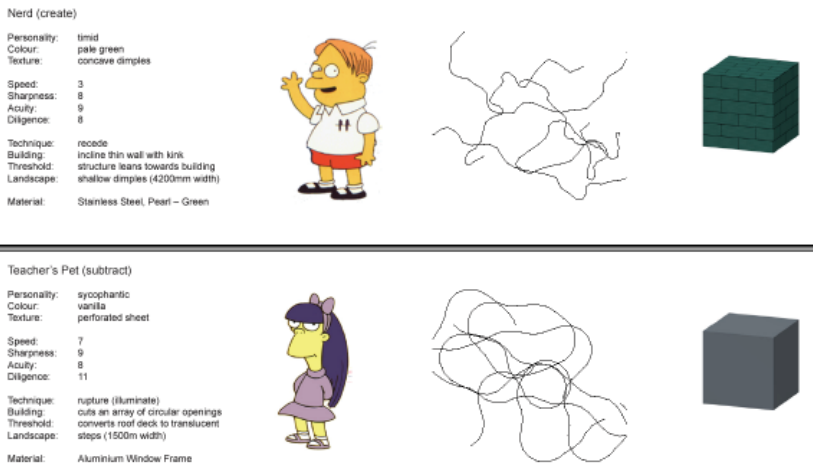


4.19 Greg Lynn, House Prototype (1994).



4.20 Levels of Indication in the progression of an analytique: from simple sketch to rendered project, from Ernest Pickering, *Architectural Design*, 1933.

the whole developmental picture in which all 'components' are embroiled in interactions of mutual affect. This has become particularly clear to me through a number of thesis projects by students at RMIT, three of which I will briefly mention here.



4.21 Peter Ryan, character properties, architecture thesis project, RMIT University, 2002.

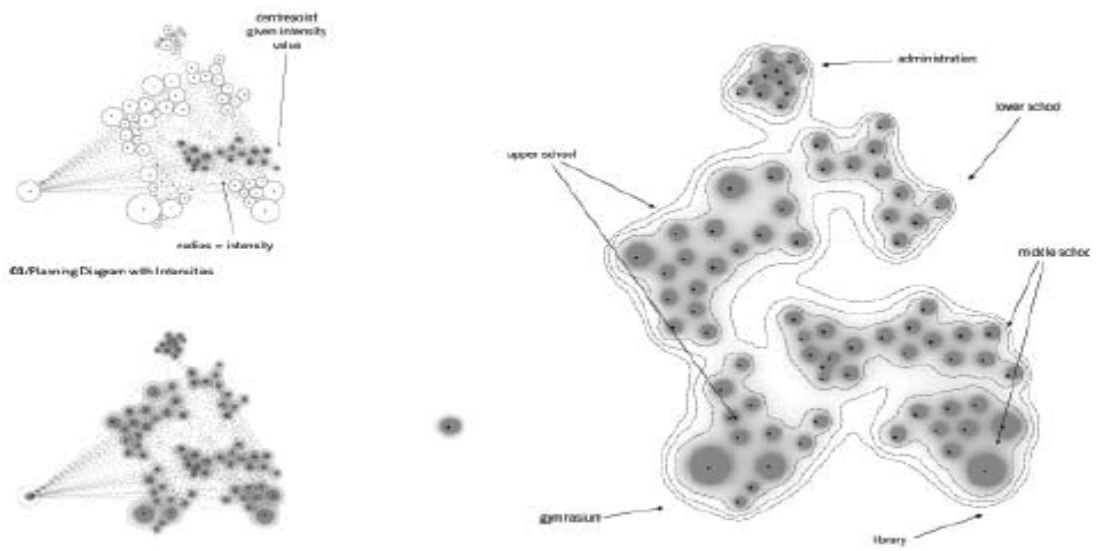
A project by Peter Ryan, titled 'A Character Building Experience,' involved an extraordinary amount of effort developing a generative system for the design of a school in suburban Melbourne. Using characters from the TV show, *The Simpsons*, as the basic 'score' or reference point, he generated a range of different agent characters based on numerical figures given to 'speed', 'sharpness', 'acuity' and 'diligence'. These properties were related to things like the frequency at which the agent would check

for repulsions and attractions, for instance. Agents/characters were programmed with relationships between one another, in that, for instance, the 'teachers pet' was attracted to the teacher and staff room areas, while the 'nerd' would always try to avoid the 'bully' who in turn would chase the 'nerd'. A complex network of field relations were generated. The problem of how to draw the form of the school out of this field was eventually developed through another layer of codes related to 'technique', 'building', 'threshold' and 'landscape' (as indicated in Fig 4.21) which offered guidelines for the architectural effects of the trajectories.

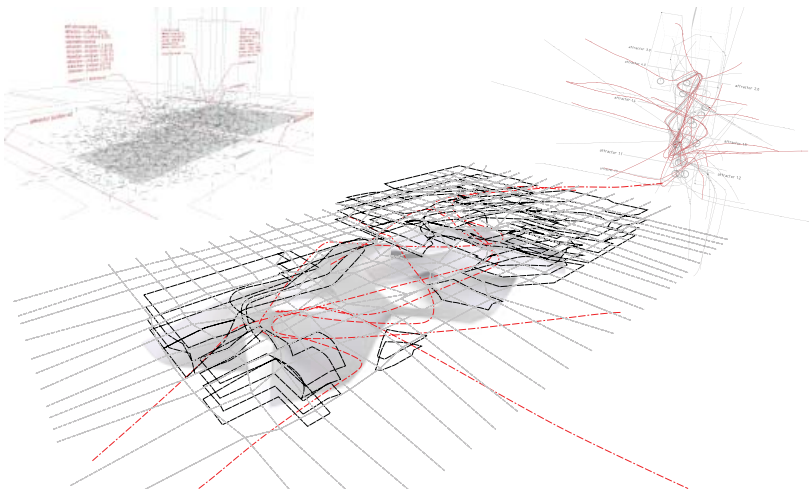
The very deliberate attention to 'character' as an issue gave an immediate qualitative edge to coded relations of the project. Obviously, this attention to 'character' resonates with the early days of composition theory and the picturesque, as discussed earlier in this Act. What seemed especially interesting to me was the variety of line qualities created in the trajectories of the various agent characters (see Fig. 4.21). The *quality* of the line became discernable and important, in a way that has been missing amidst the proliferation of curves in architectural projects. Here, there seemed to be glimmers of promise for compositional tools for the qualitative differentiation between one curve and another, one curvilinear formal gesture and another. Importantly, the emphasis here is on the *behavioural tendencies* of the line or curve.



4.22 Peter Ryan, render of school buildings. architecture thesis project, RMIT University, 2003.



4.23 Peter Ryan, program/planning diagrams, architecture thesis project, RMIT University, 2003.



4.24 Roland Snooks, agent fields, architecture thesis project, RMIT University, 2003.

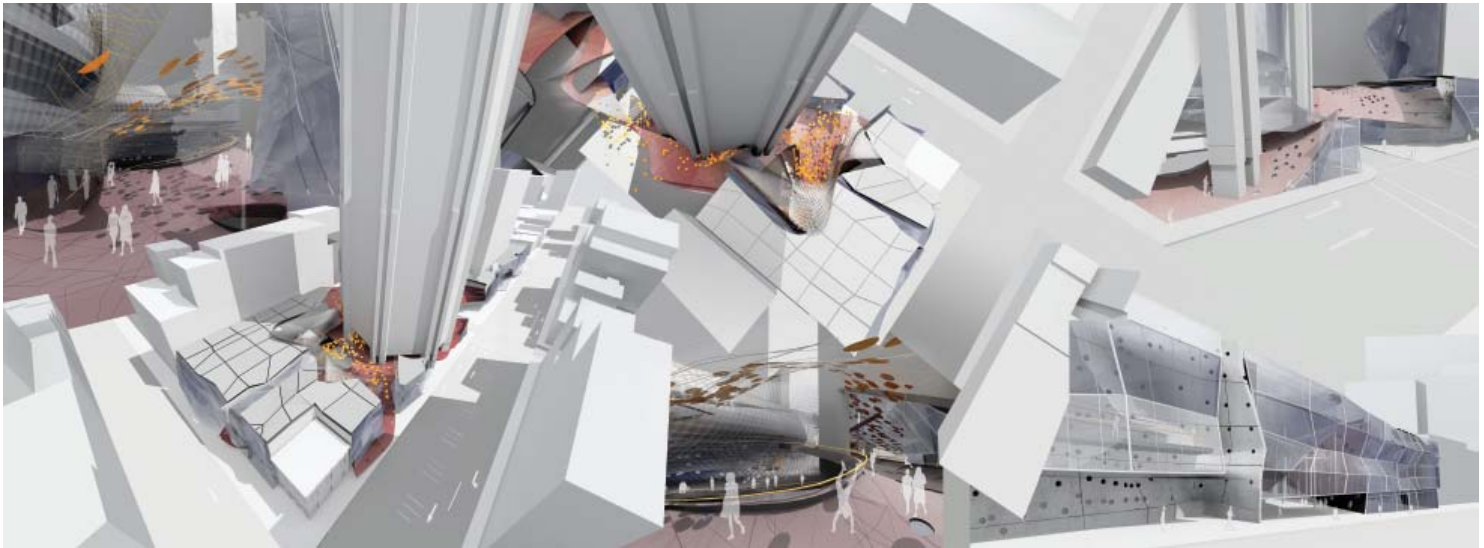
49. The description of his process in this paragraph is largely taken from an email (07.01.07) in which Snooks outlined a detailed account for me.

The thesis project, 'Emergent Field,' by Roland Snooks (now of kokkugia) and supervised by Paul Minifie, developed a three dimensional field through agent interactions (Fig 4.24). As Snooks explained⁴⁹, agents were conceived of little chunks of program, having a set of behaviours related to their attraction or repulsion to other agents as well as their attraction to various aspects of their surroundings (street frontage, adjacent programs, height etc). Once a swarm of these agents began to generate recursive patterns or demonstrate some sort of stability it was deemed to have found a degree of equilibrium and was stopped. Snooks then overlaid a grid, extrapolated from column grids of the surrounding built fabric. Nodes of this grid were programmed to respond to the agent swarm in particular ways. For example, the grid compressed when in proximity to programs such as cafes (to create laneways) and expanded when in proximity to office space (to create clear span space). A third simulation was generated to carve out public space through the various program areas, where agents were programmed to enact various basic urban relationships. Like the previous two processes this was run through many iterations with an eye for the emergence of coherent figures (from the traces of their movement). Curves were selectively chosen out of the swarm in order to generate surfaces. Snooks explained that the design of this process involved developing a satisfying balance between bottom up generative process and top down decision making and that it was a very slow and difficult task drawing out the forms. When pressed he agreed that this involved sensing a whole within the simulation and trying to draw out surfaces which are faithful to that simulation.

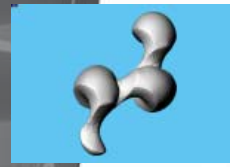
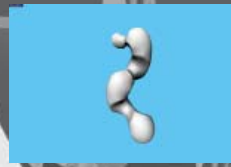
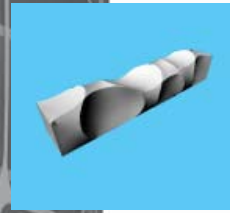
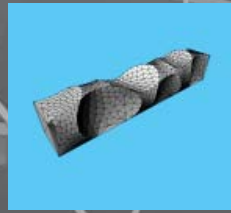
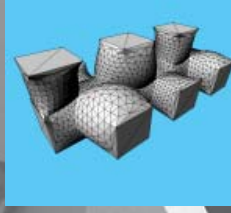
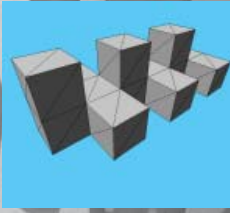
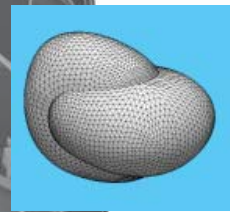
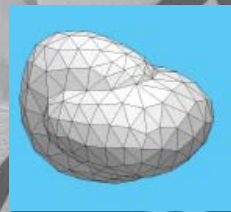
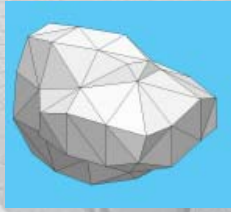
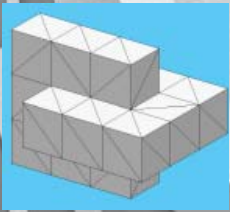
Again, Snooks project would seem quite reminiscent of Beaux-Arts compositional techniques such as indication. As Pai describes it, “indication was not merely a static method of redrawing but a mechanism of altering and transforming”⁵⁰ and that this involved cultivating “the ability to move from simple diagrammatic lines to detailed form – a process that may be called figuration – and the complimentary skill of drawing simple lines with a generative idea in mind – the capacity for abstraction.”⁵¹ It is as if recent digital processes in architecture have, as part of an evocation of the aesthetic dimensions of composition, begun to draw back on its academic history.

50. Ibid, p46

51. Ibid.



4.25 Roland Snooks, final project render, architecture thesis project, RMIT University, 2003.



4.26 Jonathan Podborek, early Evolver tests and final tower render, architecture thesis project, RMIT University, 2004.

Another thesis project, 'Highly Evolved', by Jonathan Podborsek (also now of kokkugia) worked with fields of influence that were not visualised as swarms as in the previous two examples. While the (invisible) field was a key aspect, this project gave more emphasis to the negotiation between forms within such a field.

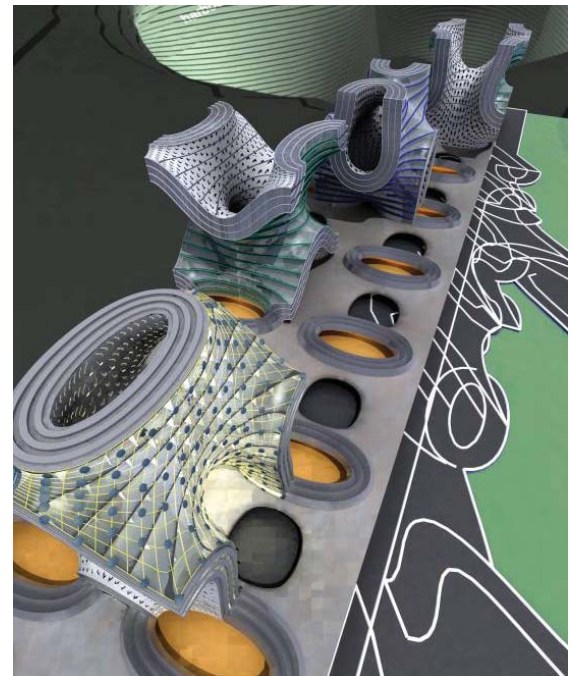
Paul Minifie, who supervised the project, had previously appropriated Ken Brakke's mathematics software, Evolver, to work with triply periodic minimal surfaces for his architectural projects, 'Harbour Study' and 'Corner Study', published in the 2001 Orleans Archilab convention publication. Evolver was developed by Brakke for modelling liquid surfaces shaped by various forces and constraints. It takes planar formal descriptions and refines surfaces such that their surface area is minimised – or such that they exhibit behaviour similar to that of soap bubbles.

Podborsek explored the software somewhat differently to Minifie, using it to generate far less 'pure' mathematically formal descriptions. His project was a high-rise tower composed as three intertwining strands of form related to office, residential and void spaces. The intertwinement of the three strands was generated through a three dimensional cellular automata program. This block model was then 'evolved' into a far more bulbous, knotted, plait-like form. The 'void' strand was then extracted, revealing the shared surfaces between this and the other two strands. In observing the development of this project, the nature of these shared surfaces always seemed to most clearly articulate the potential of the research, if only because of their surprising elegance.

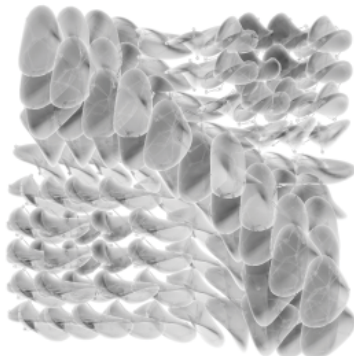
What was it that made these surfaces so compelling? They embodied, not metaphorically but literally, a highly efficient but complex negotiation between two conditions; the feeling of perfectly balanced mutual affectivity. They were surfaces of negotiation, expressing the mutually held affects of a relationship between adjacent zones of force and constraint. While, visually at least, this was a less explicitly complex generative process than the former two examples, its simplicity acted to articulate the poignance of mutual affectivity that was, in fact, a key aspect of all these compositions.



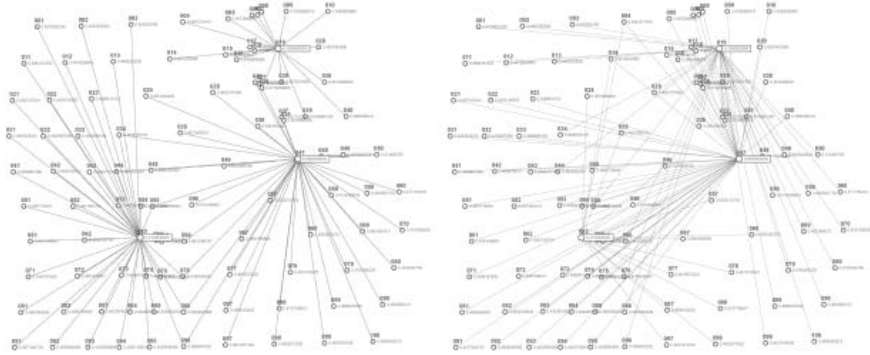
4.27 Minifie Nixon, 'Corner Study', 2001.



4.28 Minifie Nixon, 'Harbour Study', 2001.



4.29 biothing, sample morphological stance from *The Invisibles* animation.



4.30 biothing, *The Invisibles* (2003), diagram of speed-distribution and cellular relationships. These affect rotations in a skeletal field that in turn affect the movement of the skin.

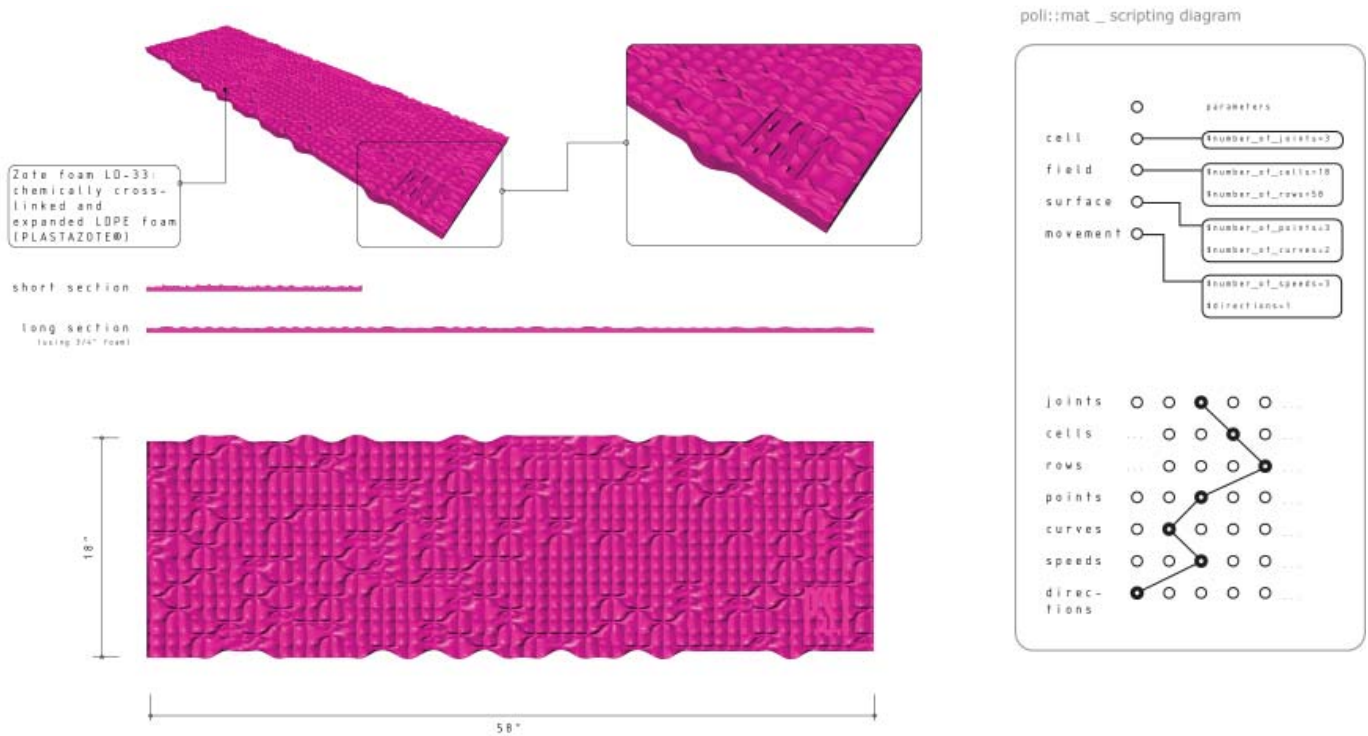
52. Ednie-Brown (2006a).

The work of Alisa Andrasek, of biothing, is another young practice in which processes of emergence are an explicit interest. *biothing* has developed techniques of design composition that intrinsically involve computation, working with fields constituted by a very deep ecology of relationships. I have discussed this in detail through her digital animation project 'The Invisibles' in a paper published in 2006.⁵² *biothing's* way of working involves multitudes of micro-components 'wired' together into a behavioural network such that the resulting forms emerge from this network. In other words, form emerges out of interrelated fields of micro-behaviours. This is played out through both digital and analogue models.

The first physical model for her project, 'bifid,' was laser-cut at the Spatial Information Architecture Laboratory at RMIT University in Melbourne. In this context I was able to literally play with the model, feeling out its behavioural tendencies. This occurred while she was in residence, running her 'Material Potency' seminar as part of a design studio, in which she would often evocatively orient the design investigations of the RMIT architecture students towards the production of a 'creature'. This is quite different to biomorphism as an approach because it is not about looking like or formally resembling a living thing. Rather, a pattern of relations is built into a physical model such that the behaviours of both the manufactured pattern (a colony of variationally repeated units constructed out of strips of material) and properties of the physical material actively codetermine the nature of the creature's swarming morphology, which comes into being at a different scale and ontology to the ecology of relations through which it emerged. The relations that constitute biothing's compositional entities cannot be singled out: they are never experienced in isolation, not even as some part of a whole. As a multitude engaged in an emergent process of composition, they generate patterns or textures of multiple, mostly invisible, relations: a consistency. What we (aesthetically) experience is an all-over, over-all consistency. My interest in biothing's work has centred



4.31 Alisa Andrasek and her 'creature' during installation of the bifid project at the KSA Gallery, Ohio State University.



4.32 biothing, poli::mat – “a genetically designed surface system proposed for MOMA PS1 Warm Up series as a poly-use accessory. It’s variable patterns are derived through computational algorithms by scripting relationships of speed distribution through the cellular field. Higher number of speed increases intricacy of a pattern, while decreases depth of surface.”

around the idea that the aesthetic power of biothing's projects is integral to this *mutual affectivity*,⁵³ a property that was also constitutive of Ryan's and Snooks' swarm fields and rendered very explicit in Podborsek's surfaces of negotiation.

The 'Emergence and Design Group' and their recent AD publication, *Emergence: Morphogenetic Design Strategies*, has taken the growing interest in emergence and design to an even more explicit level. The publication offered a very useful probing into the potential of emergence for design practice. Both Lars Spuybroek and this group draw significantly on the work of Frei Otto, who exemplifies a focus on embedding structural behaviour into processes of emergent form-finding. In a sense, this takes Le Corbusier's enthusiasm for the 'engineer-aesthetic' through new tools and techniques. These issues are enormously interesting and, I believe, hold great as yet unrealised potential.

This thesis, however, approaches the subject with a different question in mind: what do design processes modelled on emergence imply for the ethico-aesthetic know-how of architectural practice?

A compelling dimension of all the examples given above, is the strong sense of *vitality* they present us with. There is a powerful *sense of event* in which a balance is struck between the out-of-control and intricate precision. But this 'balance' is less *between* them, than vitally overflowing and encapsulating them both.

The focus across this field of work tends to be almost exclusively on the details pertaining to process, where the outcome, in all its quivering vitality, 'simply' emerged. There are some exceptions to this, most notably in Greg Lynn's early work, where he set up the 'animate' as an explicit target. In the acts to follow, the manner with which Lynn's practice dealt with this target is explored for what it can be seen to indicate about the broader field of processual architecture.

7. The contemporary conflict

In the patterns perceived across the earlier historical examples related to emergence and composition theory, there was always some kind of conflict that these theories acted to mediate, through establishing a shared ground of negotiation. If this is a pattern that is being repeated in contemporary architecture, how might we see the nature of the related conflict?

Despite the quite intensive and diverse academic research into architectural design process that has occurred through processual architecture, any reciprocal or related work on the nature or assessment of design products have remained, at best, peripheral. It is not that the products of architecture have not been discussed, *ad infinitum*, but that the relationship between a studied articulation of process and the nature of the outcome is a stunningly rare discussion.

The recent doctoral thesis on architectural composition by Shane Murray (2004), opens such a discussion and suggests something of the conflict being grappled with in the revived attention to composition. His research explored the disjunction between the actuality of design process and its discursive authorisations, setting out to demonstrate a closure of this gap through accounts of his own architectural design work and his approach to composition. Murray comments that “much architectural execution relies on compositional procedures that have direct historical precedent within the history of architectural composition but that these are rarely, if ever, disclosed.”⁵⁴ Murray is very critical of the tendencies of design discourse to call upon authorizations that are not embedded in the actuality of their process. Addressing architectural discourse of the past 20 or 30 years, Murray comments that:

54. Murray (2004), p3.

“what has actually taken place is a substantial change in the discourse and pre-design investigation that surrounds architectural production that still however avoids or is unable to account for what is entailed in architectural composition. It can still be observed that discourse, including new forms of analysis, act as authorising or legitimising agents rather than attempting to actually inquire into what we do as architects.”⁵⁴

54. Ibid, p18

Murray’s is not an attempt to articulate a set of rules or principles that can be generalized for the use of designers in general. Rather, he points to the ‘signature’ of the designer (or office) as the basis of a compositional practices, and highlights the manner in which this is *realized* (in the double sense of being both developed and understood), through engagements with

54. Ibid, p. 161.

contingency: site, architectural culture and architectural expression.⁵⁴ For Murray, it is with an understanding of what a particular “formal language” *does* that opens the path to a more productive integration between the actuality of design process and the nature of the design product.

Murray’s turn back toward architectural composition as a subject of discussion occurs as another instance in which a desire to connect divergences or temper the fall of a transcendent authority enters the scene. In this case the flailing authority was philosophy and critical theory, which enjoyed a peculiarly authoritative status in the 1980s and 90s. A big shift in this status was marked by the final issue of *Assemblage*, published in 2000. The editors, Michael Hays and Alicia Kennedy, make an emphatic point that:

55. Hayes; Kennedy (2000), p. 6.

“The end of *Assemblage* has nothing to do with the end of theory...Rather, the transitional moment means that theoretical activity achieves a new excitement and urgency. We hear the antitheoretical rants to be sure, and, oddly enough, coming from deep within the theoretical camp.”⁵⁵

56. Ibid, p. 7.

Sure enough, this last edition, a collection of one (sometimes two) page contributions from those who had been published in *Assemblage* over the years, is riddled with references to, celebrations of and discussion regarding ‘the end of theory’. It is interesting to note here that this edition also publishes Greg Lynn’s story, ‘A New Style of Life’, to be discussed here in Act 7, which in itself is an enactment of a turn away from theory toward different kinds of writing. Hayes and Kennedy, while rejecting the finality of ends, do promote the idea that the work of theory “now demands new formats, new styles, new modalities.”⁵⁶ This is reiterated in the last essay, and final word, of the edition by Robert Somol, who offers a biting sharp, provocatively critical and amusing synopsis of architectural discourse at the time. He bemoans the stagnation of criticality into increasingly predictable, ‘end-state’ forms and suggests that both writing and design “under the regime of criticality have become commoditized, and it remains for future configurations to see whether they can be rechannelled to the new economies and ecologies of experience and engage new audiences.”⁵⁷ Both this doctoral research and Murray’s recent thesis are, in part, responses to this ‘falling out’ of critical theory and an attempt to establish some new ground and fresh forms of consensus. In Melbourne, the research community at RMIT’s School of Architecture and Design have given significant attention to models of research by practice. This has notably occurred through Peter Downton’s publications on the subject (2003, 2004), through Leon van

57. Somol (2000), p. 93.

Schaik's practice based postgraduate streams and publications (2003, 2005), and Mark Burry's 'embedded practice' doctoral model. What has been at stake is ways of integrating theoretical scholarship and research through practicing.

8. The material rupture

"Solidity is the first quality a building must have."⁵⁸ (1753)

58. Laugier (1977), p68.

There is another significant rupture or conflict that has been at stake in this contemporary reappraisal of composition. In a paper I wrote in 1999, 'Falling into the Surface', I drew attention to the conflict between the insistent stasis of buildings and the interest in explicit movement within contemporary architectural discourse. Given that buildings have always been the artefact that defines the discipline of architecture, it seemed that: "The foundations of authority upon which architecture has curated itself have begun to crack."⁵⁸ In foregrounding processes of formation as constituting the key properties or defining conditions of the architectural product, processual architecture might be seen, and has been seen, to be either irrelevant to the discipline proper, or throwing that which constitutes the discipline into serious question.⁵⁹

58. Ednie-Brown (1999), p8

59. see Ostwald (2004)

This was related to a strong sense, coming most loudly from cultural theory, that through the use of all these 'virtual realities' (meant to be largely synonymous with digital technologies), we were somehow becoming disembodied. It was becoming clear that a reappraisal of what counted as a 'body' and as material reality was required. Again, I am arguing here, that the key to establishing a shared ground of negotiation between the stasis of buildings and the movements of process, between the physical actuality of bodies and the intangibility of 'virtual worlds', lies in the abstract but embodied reality of affect.

Act 5. Expression and the process of formation

Act 5 explores the behavioural tendencies outlined in the previous act in more detail and with a closer, more involved attention. This allows me to set out some key qualities and relations that shape these tendencies within processes of formation. This pertains to both the process of forming an object and forming a perception of it.

Initially I turn to the work of Greg Lynn and his aims for 'animate form,' drawing them through and against a range of other material in order to flesh out the aesthetic implications therein. This involves a discussion of how my sculptural project, the *Animate Casts*, helped me think through both the process of generating animate form and the expressive nature of formal outcomes. Heinrich Wölfflin's theory of architectural expression and style is then recast into a model of behavioural tendencies within processes of production. Here there is a juxtaposition of standard and non-standard processes, the later of which is implicit to the *Animate Casts* and Lynn's process technique. This recasting occurs through giving particular attention to the role Wölfflin gives to ornament in expression and the production of style. In short, behavioural tendencies within processes of formation are highlighted and explored as having particular relevance to the mode of composition that this thesis aims to articulate.

1. Animated Forms

1.1 Perception, form and formation

Despite the fact that processes of emergence have been discussed within recent architectural discourse, the relevance of emergence to the aesthetic nature of a still-standing object is a mute topic. Something akin to the scientific struggle with emergence is also found in architecture. This becomes particularly clear in architectural design studios that focus on generative, emergent process where the highly engineered and intricately articulated process leads to an aesthetic outcome about which very little, it seems, can be said. Something seems to be missing. The less articulable movements that pertain to aesthetic judgement seem to be passed over in favour of the more explicit actions as *formally* articulated in processual design systems.

The focus on intricate studies of generative process, in both scientific inquiry into models of emergence and related areas of design discourse, is inseparable from the fact that emergent phenomena are intrinsically processual. But this does not mean that the products of emergent processes are not relevant to the analysis of those processes. What seems to be missing is a deeper consideration of the processual nature of perception and the way in which these products are processual as well. This issue has been touched upon in Part 1 through amodal perception and came to bear in the discussion about ways in which we might perceive a circle.

William James offers a related useful illustration: $2 \times 3 = 6$. There is a difference, he insists, between 2×3 and 6. They are not tautological: they do not repeat the same meaning. One is a *process* and the other is its *issue*. However, linking them together does *matter*, as the number 6 is an issue (a form or character) that can be understood *through* the process of formation: 2×3 . It could, however, also be understood as $2 + 2 + 2$: a different process of formation and a different patterning of action. Any

time we write or read the number 6 it is backgrounded by processes of understanding, associations, memories etc: the processes through which we know and imagine that number. The nature of those processes, their patterning or texture, is tied up with the affective resonance that the issue (or number) has for us.

The baldness of a number printed on a page enters the same stories as the circle and the line: some things encourage a sense of background eventfulness more than others. When a thing presents us with a strong or explicit expression of the situated conditions involved in its process of formation it flips a sense of processuality into its stillness. John Holland touched on this distinction in relation to games: “board games, unlike numbers in their raw form, capture the dynamic of unfolding actions and their consequences.”¹ The board game becomes an event-based manifestation of what Lynn was after: the capturing of unfolding dynamic of motions and forces. An object or a form is not as explicitly temporal or processual as a board game, but they will always be more than their formal static being. They will be part of dynamic, unfolding actions. How to produce form that powerfully encourages a *sense of* this dynamic becomes a key question in striving, for instance, for ‘animate form’.

1. Holland (1998), p. 203.

1.2. Animate Form; Greg Lynn and Capturing Life in Form

“The very laws of proportion and style that held together the schemata of beauty together in past centuries may have served this additional aim of preventing too much life from entering the artist’s creations.”²

2. Gombrich (1959), p. 289.

“..the function of design in the visual arts is to imbue inanimate objects with the qualities of life...[where] enshrined in each unit is enshrined a sensitive spirit which animates it and controls its disposition”³

3. Edwards (1945), p. 27.

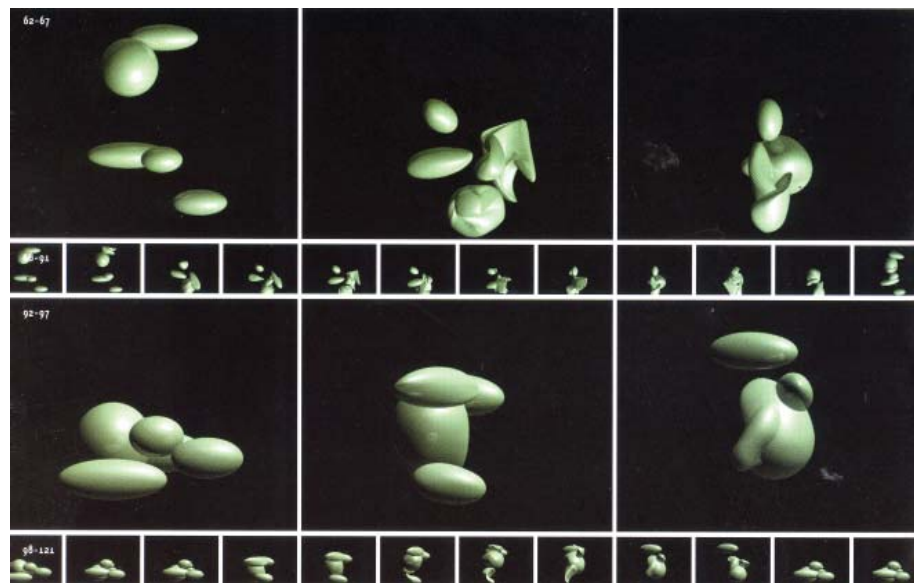
Amidst the relationships between aesthetics, design composition and emergence, developed over the past decade in processual architecture, Greg Lynn’s *Folding in Architecture* and *Animate Form* can still be regarded as key moments in setting the stage of this arena. Following the brief survey of the field of processual architecture in the previous Act, I will now turn back to Lynn and to a more detailed examination of the crucial issue of *vitality* and the *animate* that *Animate Form* brought to the foreground.

Certainly, his emphasis on the 'animate' immediately links his work to composition and aesthetics. The quote above from Trystan Edwards is but one example in an extensive history of the idea that the act of architectural design can be associated with the act of creating life. The beautiful and vitality (or the living) have long been parcelled together. *Animate Form* can be seen as a rephrasing of that history as it meets with digital technology. In the final sentence of the opening essay he writes: "If there is a single concept that must be engaged due to the proliferation of topological shapes and computer-aided tools, it is that in their structure as abstract machines, these technologies are animate."⁴

4. Lynn (1999), p41

What it means for a technology to be 'animate' is not something about which he is entirely clear. He does state that "animate design is defined by the co-presence of motion and force at the moment of formal conception."⁵

He also takes the care to distinguish, from the outset, between 'animation' and 'motion': "While motion implies movement and action, animation implies the evolution of a form and its shaping forces: its suggests animalism, animism, growth, actuation, vitality and virtuality."⁶ In other words, while motion implies moving action, animation implies life or liveliness as an evolving infolding of the actual and the virtual, matter and force. This would seem to be a distinction between the mechanics of life and the force of life, the later being a more complex, energetic and spiritual notion.



5.01 Greg Lynn, Henie Onstad installation design animations.

The implicit claim of Lynn's book is that digital technologies enable us to *capture* motion and force in architectural form and that this capture makes it animate.

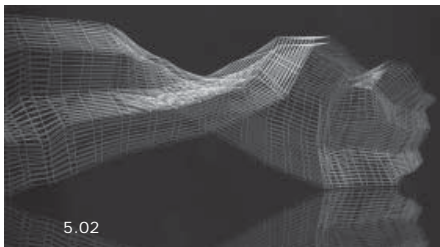
The general technique he offered in this book can be sketched out as follows: using the force simulation capacities of animation software, a field of forces and influences are set up to affect an initial form, which has been assigned with properties of its own. Often the form is a collection of 'primitives' (spheres, rectangular prisms, cylinders etc) that are significantly deformed by these forces. These 'forms' are actually skins: films of data defining an area of calculated, Cartesian space that are elastically

deformed as part of a matrix or complex of simulated forces. They bend, twist and bulge in response to otherwise invisible influences, a little like watching a body dancing to silent music. It is these invisible forces and dancing motions involved in the deformation of the 'primitive' that are, supposedly, embodied in the final outcome. However, an understanding of how this embodied capture might occur is not self-evident in the projects themselves, nor is it addressed in his essay or in the project descriptions.

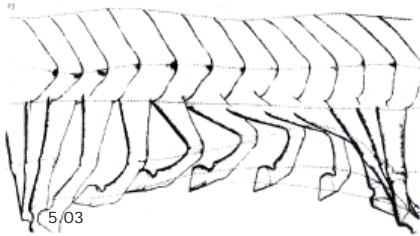
A related technique in digital animation is the motion-capture, which offers a useful comparison here. In motion-capture techniques, an actual body is wired up with location sensors such that its movement can be mapped onto a digital model. This saves the animator having to model convincing movements, using live capture to circumvent this difficult task. This process was quite explicitly used by Mark Goulthorpe in his *Ether/I* project (1995) which "is an investigation of motion capturing techniques of creative formal production."⁷ Here, a form literally traces out a movement, in a manner reminiscent of the early nineteenth century experiments of Etienne-Jules Marey and Eadweard Muybridge, as Goulthorpe discusses.⁸ In this mode of motion-capture, movements over time (gestures) accumulate into a form. Form 'captures' movement by being a trace of it.

A more technically inventive and complex project that involves a tracing of movement is *The Streaming House* (2002) by Minifie Nixon. This speculative project involved running the frame sequence of video/film through medical imaging software that computes 3D forms (of bones, organs etc) out of a series of 2D body scans (Fig 5.04). Using a video sequence of a looped path through Mies van der Rohe's Barcelona Pavilion (Fig 5.05), the frames of this sequence (Fig 5.06) were stacked up like a series of body scans (Fig 5.07). A series of identifiable object types (floor, ceiling, columns, sky, walls) were 'skinned' across the frames, after which the strip was bent back (Fig 5.08) to re-enact the circulation loop of the camera path (Fig 5.09), producing a donut shaped house form.

Like *Ether/I*, the house traces out and captures a passage of movement in form, but rather than drawing on a physical gesture, it transforms a visual registration of the movement through a building *into a building* (albeit a highly speculative one). It enacts a cunning twist on the modernist tendency to use circulation diagrams as generative. *The Streaming House* employs both circulation movements through space *and* the capturing of sequential movements across time. Via video camera, the visual perception of a body walking along a looped path is stacked, into slices of time, to then be reformed into a very strange and compelling after image that one can walk around and appreciate from any angle.



5.02



5.03

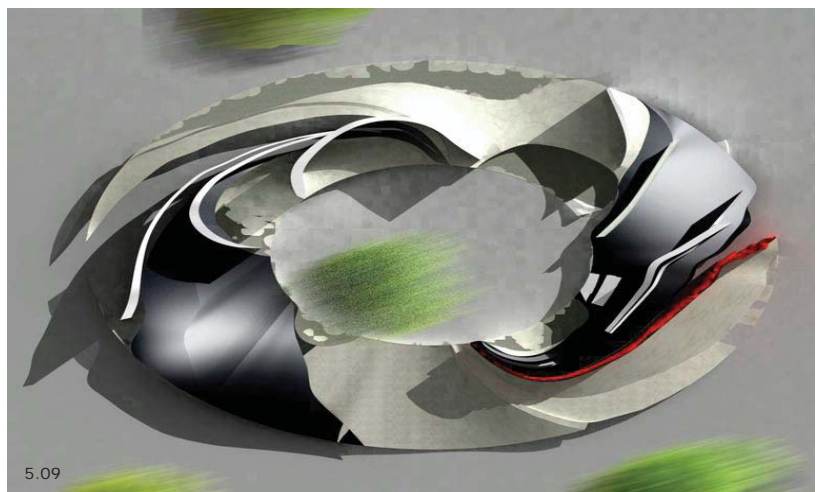
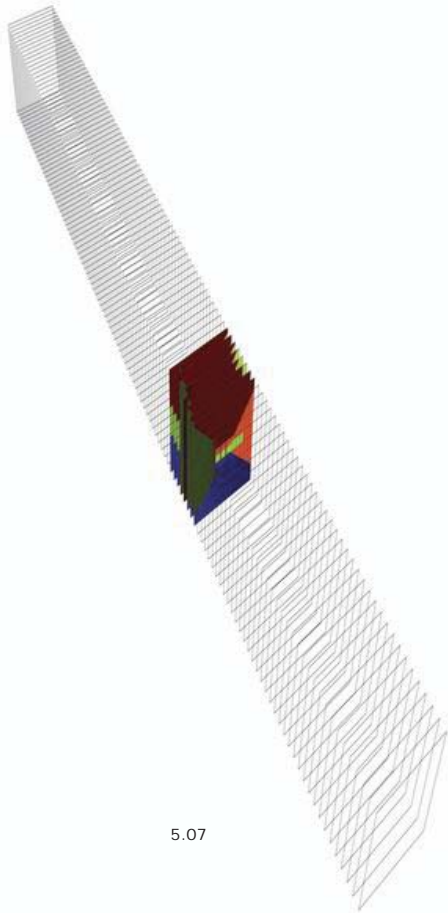
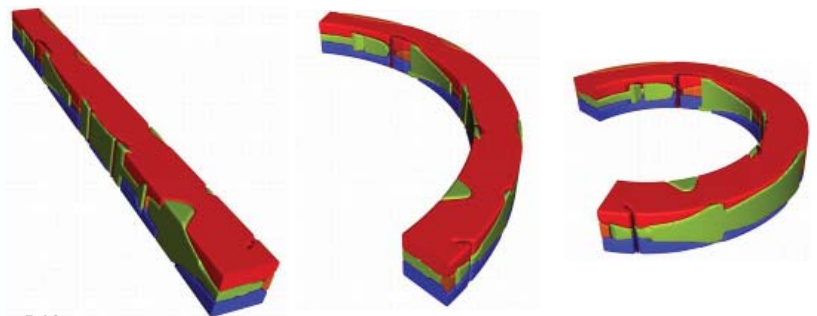
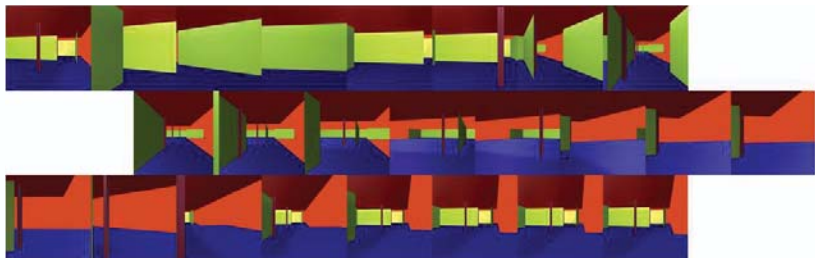
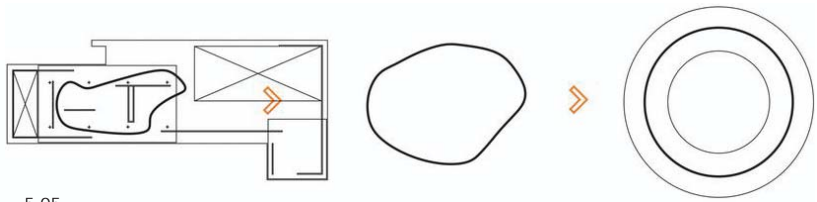
5.02 Mark Goulthorpe, *Ether/I* (1995).
5.03 Etienne-Jules Marey, description of curvilinear continuity across snapshots.



5.04 3D image of head compiled through 2D scans.

7. Goulthorpe (1998).

8. *Ibid.*



5.05 Diagram of movement path through the Barcelona Pavilion through to circular form of the The Streaming House. **5.06** Image frames from the video path through a digital model of the Barcelona Pavilion. **5.07** Image frames from video stacked into a linear sequence. **5.08** Stacked images scanned into 3D form and bent around into donut. **5.09** Plan section of final house form.

There are many ways of thinking and appreciating this design act. It could be felt as somewhat like a formal incarnation of visual perception seen by a third eye, operating independently of time and space (a super awareness eye). Or, it makes a radical, formal objectification of the visual perception involved in movement and presents it as piece of architecture. Or, it burrows into perspectival depth-in-movement such that it is radically flattened before acquiring an entirely new depth. The nature of that depth? You can turn around to see the edges of all you saw still there, relentlessly stacked up and skinned behind your back. Certainly, this project operates, almost surgically, on the constructions of visual perception and the Cartesian model of form and space, twisting and grafting them together in such a way that, at least potentially, enacts a perceptual, conceptual and experiential twist. This topological reconfiguration of constructs of experience might be argued to be one clever technique through which to twist the animate into form, but it certainly is not the technique that Lynn promotes.

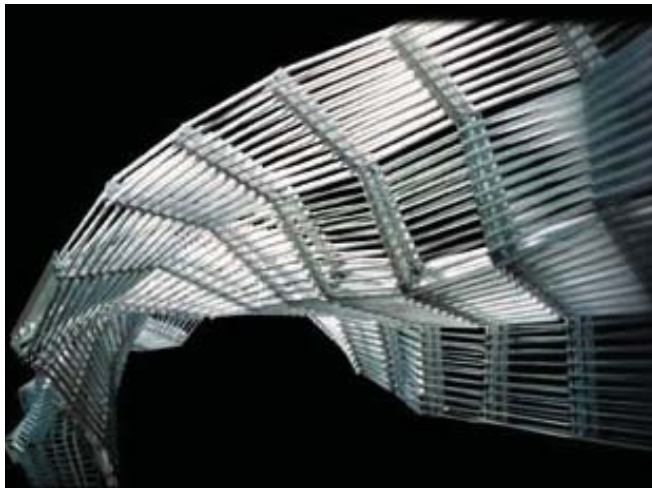
In these examples from Goulthorpe and Minifie, a *passage of movement* is traced out. At first sight, these examples might appear to confirm the assumption that built form can somehow capture motion. But do they capture *force*? Is this perhaps a key to the difference between 'tracing' and 'capturing'? For Lynn, the issue of force is largely about the nature of space as a force-filled dynamic that is inseparable from matter and its forms, rather than the dialectical counterpart of form. He proposes that the design space of the animation/simulation software offers architectural design process "a conceptual field populated by forces and motion" in juxtaposition to the idea that architecture is a static entity in empty, Cartesian space, where "movement is something added back to the object by the viewer."⁹ In other words, force is a property of matter, not something added or taken away from it.

9. Lynn (1999), p. 13.

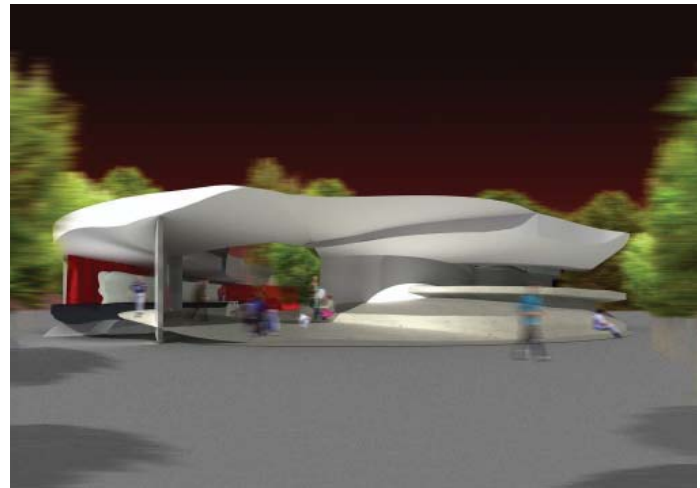
For Ether/I and The Streaming House, it might seem that continuous movement need not be added back by the viewer, because a temporal passage of movement is literally, formally traced out. But once the trace of something that has passed has been fixed in form, would it necessarily be perceived as such? A line formed by the path of an ink nozzle in a printer does not tend to be perceived as the trace of movement that it most certainly is. It is simply a line; an object. However, like the circle discussed in act two, the line can be perceived in terms of infinite potential movements involved in its engagements in the world; of past, present and future. But the line itself doesn't necessarily *encourage* a sense of this moving field of connection. For movement or a process of formation to

be *amplified* within the sense of the object itself, something more needs to occur. By contrast, if a table, being carelessly carted down a passage way, gauges a line into the wall with one of its legs as part of a particular 'passage of movement', that line would very likely be perceived in terms of some past event: it embodies both motion and force and, by Lynn's definition, is an instance of animate design. If we think of a similarly forceful gesture through which, say, charcoal makes a lively mark on a page, the 'liveliness' of the inscription cannot be simply relayed into an architectural design project without many stages of translation and, ultimately, radical transformation. This is also the case for forms generated via simulation software. Trace the line and move it into another place, context and media and its eventfulness will only come with it via a very careful attention to crucial relations, ones akin to Stern's 'vitality affects'.

In both the *Ether/I* and the *Streaming House* examples, the nature of the objects themselves do encourage the sense of some kind of active past or forceful event that generated them. In no way do they necessarily point back to the *particular* process through which they formed, but only to a *general* sense of something having happened. If approached with no knowledge of the generative technique, it would take a miraculous act of code breaking to back-track the sequence of moves that led to the *Streaming House*. Similarly, *Ether/I* does not say "traced movement of dancers body" in any direct way. What matters is the sense of a history rather than a knowledge of a specific history. The potential to unravel that history through, for instance, accounts of the design processes in publications, operates as an embedded depth.



5.10 Mark Goulthorpe, *Ether/I* (1995).



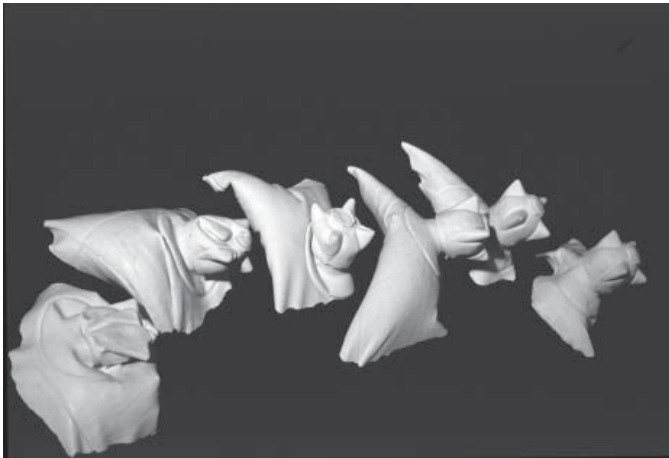
5.11 Minifie Nixon, *The Steaming House* (2002-3).

Clearly both Minifie and Goulthorpe intended for there to be a strong sense of movement as part of the outcomes. If we look at primary representations of each, in both cases motion is accentuated in the image, through either motion blurring or highlighting the slippage/doubling of form. The rhetoric of the motion capture is clear.

Lynn uses a field of forces to generate a passage of movement (ie. an animation). Strictly, he doesn't adopt a tracing technique, at least in terms of the process of formal conception. Rather, an instance of the passage becomes the outcome. But in *extracting* an instance he is suggesting that the animate qualities of those motions and forces are inherently captured.

A detailed exploration of Lynn's techniques, discussed in subsequent acts, became necessary because the presentation of the projects in *Animate Form* certainly don't illuminate the claimed connection between process and outcome, as the projects of Minifie and Goulthorpe do more clearly. The quite extensive theoretical paper that opens *Animate Form* does not discuss any of his projects directly. The rest of the book operates as a catalogue of projects, each presented though a large number of figures and a single paragraph of explanatory text. This sharp division between the essay and the projects makes the connection between them more than a little difficult and is quite at odds with the position he takes in the essay regarding the inseparability of architectural form and the dynamic space of influences in which it is produced. One would assume that the ideas discussed in the essay were part of that field of force and influence in which the projects were made, even if the ideas were more felt than argued within the act of designing.

These blanks, gaps and inconsistencies in Lynn's work left me both unsatisfied and even more curious. How do we 'capture' movement in form? How do we make things that feel vital and enlivening? It felt as if something *unspeakable* was blocking the potential of what he, and others in the field at the time, were doing.



5.12 Pia Ednie-Brown, *The Turn On* (1998)



5.13 Pia Ednie-Brown, *The Party* (2000)

1.3 Animated Casts; an analogue analogy

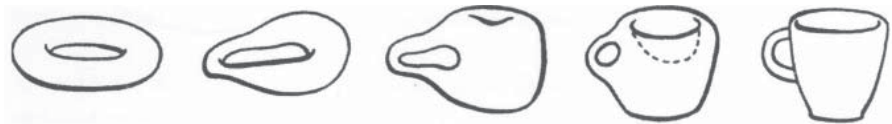
In the midst of my early thinking about the use of 3D software as part of design practice and, particularly, the modes of generating form promoted by Lynn, I produced a series of plaster casts of deformed shower taps that I called *the turn on*. These were produced through pouring liquid plaster into a latex mould. In doing this, I actively encouraged the mutable properties of the latex to allow the tap shape to be deformed. This produced a variety of different casts from the same mould: a variational series. These were exhibited in a group show at the Perth Institute of Contemporary Art in 1998. Later, in 2000, I repeated the process with some small bottles, that I called *the party*. Together, all these castings cluster under the general name of the *Animated Casts*.

This casting exercise began as an analogue exploration into the qualities that computer software offers to the modelling process. I was intrigued by the fluid, elastic deformability of digital models and wanted to explore the act of working with these properties. The fluid state of unset latex and plaster coupled with the elasticity of latex skins together seemed to have an affinity with the fluid and elastic capacities of modelling and animation software. Being prior to having developed any significant animation software skills myself, I turned to this analogous, analogue procedure.

I began with the liquid latex, brushing it on to all sorts of surfaces in and around my living environment, becoming more and more fascinated by the degrees of precision with which the texture of those surfaces were embedded in the latex skins I subsequently peeled off. For a while, I just studied textures and surface reliefs, collecting a large number of textured latex skins. Brush marks and other material particularities of surfaces (air bubbles, lifted surface dirt) became part of the new life of each texture. Removed from its source, lifted off the material situation through which it came into being, these textures took on a deathly life of their own, like ghosts.



5.14 Pia Ednie-Brown, *Latex texture studies* (1997)



5.15 Transformation of donut to cup: a study in continuity properties of surfaces. This illustration was used by Lynn in *Animate Form*.



5.16 Dried latex being pulled off a tap (from 'The Shower' project).

10. The choice was also influenced by the fact that I was just playing: doing this at home in my spare time without expectations for the outcomes other than satisfying curiosity. The poignancy of the domestic associations of the tap are tied up with this mode of play.

When I moved on to make a mould of an object with the latex, my attention shifted. In order to pull the latex skin off an object, it must be topologically the same as a plane or sheet. The outside of a teacup, for instance, won't work, because you can't pull the mould off the handle without cutting the latex skin. The tap form was first chosen because it was of this order¹⁰: an object that offered a surface from which a skin could be pulled off in one piece. I found myself, virtually involuntarily, seeing the things around me in terms of their surface properties, analysing the continuity of surfaces.

The two dimensions of texture and surface continuity were joined with other material differentiations. The latex never went on entirely evenly in terms of thickness and when it came to pouring the plaster, thinner areas gave in more to the pressure of the plaster.

Thinking back to the digital skins of *Animate Form*, these latex surfaces have embedded qualities that a set of point data describing a volume in Cartesian space does not. The latex skin acted to carry the traces of a past engagement (with the tap in my shower) into it's role as a manipulable shape for the plaster with which it negotiated a cast. This elastic skin became a primary register of the dynamic relations between all of the forces and matters engaged in the process.

The resulting casts arise out of the coalescing involution of a myriad of relations within plaster, mutable latex form and the environmental armature that I prodded and tweaked. Forms emerged through an assemblage of dynamic interactions, falling into one another in a collaborative agreement within an overarching but responsive skin.



5.17 Individual pieces of *The Turn On* (1998).

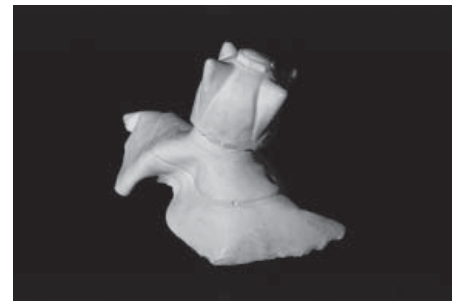
1.4 The Life and Character of Form

"...what emerges does not conform or correspond to anything outside it, nor to its own conditions of emergence. A determination of being is not a tracing. Determination is a differing. Emergence is always of the different: every genesis is a heterogenesis. A thing's form does not reflect its formation. *It inflects it.*"¹¹

11. Massumi (2002b), pp xxxii-xxxiii

It was immediately striking that each cast seems expressive of a character or mood that differs from each other cast. It could be said that one looks depressed, another curious and another leaps joyfully. Others might feel them differently and make different associations, but a sense of differentiated expression and/or character remains. They could be a group of different characters of the same species or a series of postures made by the same creature. But one or many, they seem semi-alive, or animate. Having arisen, to a significant degree, out of a curiosity for the elasticity and fluidity of digital form making, they offered me a satisfying outcome: speaking back quite loudly to Lynn's *Animate Form*. They also provoked a question about how form can be expressive.

It has to be acknowledged that we can quite easily afford character to a standard tap or bottle – we don't necessarily need an elaborate process of deformation to give them this capacity of seeming 'life-like'. Children, after all, do this all the time – where all manner of objects can assume life-like qualities and become part of a whole series of imagined actions. Where the vivid imagination of the perceiver imbues the object with virtual movement, an animation of, say, a series of household objects coming to life, will represent this for us. Either way, something affords the object with some kind of movement. The idea that this is all a product of our desire to anthropomorphise or to see ourselves in things might suffice, but this implies that any a life-like quality does not involve properties of the thing itself, but only of our perception of the thing.



An aspect of the 'character-like' qualities of the casts seem to act through a sense that every modulation operates in accord with every other; all swept into an integrated set of gestures or a posture. In other words, there seemed to be something embodied by the nature of the forms here, rather than just a perception applied to them. Like the account of the circle and the way in which a line may or may not encourage a sense of its process of formation, different objects will tend to provoke a sense of processuality to varying degrees. Perception does not occur purely in the human subject, it occurs in the entanglement of the perceiver and perceived. The casts are not a blank or a nothing – they participate in the perception.

But this participation is not simply about the nature of the form, either, because the way in which they might be placed or situated has an affect. Their naming and designation as sculptural works, their exhibition in a gallery, their display on my lounge room wall all inflect their 'meaning'. The title given to the taps, 'the turn on', was a quiet joke for me. Taps, in their usual state, can be turned on and off. Plaster casts of them can't function in this way, but the modulated state of the casts 'turned them on' in another way. They were banal objects aroused, stimulated by a process of deformation. They were a playful attempt to do something similar to the digital modulation of form, but through entirely non-digital means. The seductive nature of the digital animation, which had enormous rhetorical power in discourse at the time, was shifted into another kind of 'turn on': form turned into its own deformation. As much as this naming faintly amused me at the time, it is not a trivial component of the piece. It forms a looping of mutual affect between the signification of the name, the nature of an important past influence, an allusion to discursive influences (the seductive power of animations) and the expressive actions of the casts themselves. The significance of the work lay in the resonance between those aspects. The importance of my moments of quietly laughing to myself about this resonance takes on deeper significance in Act 8.

'The party' was more concerned with community, clustering and familial relationships. I made them specifically for my family one Christmas, where small clusters of the larger group would be go to live in separate houses, while enacting a sense of connection between them. Bottles are, obviously, also objects that usually feature at most parties, holding the alcoholic lubricant that social gatherings so often call for. Alcoholic lubrication works

to ease the flow of communication, relaxing the various participants. It de-rigidifies, just as the latex mould did for the form of the bottle. A set of similar actions come to resonate together through a simple act of naming.

Any object is an ongoing occasion in itself that is then always part of some other occasion that it participates in making. Its status as a perceivable entity, where it is contained enough to be distinct from other things in the world, both differentiates it within any occasion and *allows* a sustained participation. They can then be thrown into a series of very different occasions: the 'joke' of their encapsulating title 'the turn on'



5.18 Pia Ednie-Brown, The Party (2000)



5.19 Pia Ednie-Brown, The Party (2000)

or 'the party', their juxtaposition with digital generative animations in architecture, their exhibition in a gallery of contemporary art, their act as a family gift, their process of making in a domestic environment, their forming the basis of a student workshop and seminars, the use of their images in lectures, on posters and as course material, their display on the lounge room wall of my apartment (and as backdrop to a number of dinner parties). They have lived.

I am insisting here that the expression of form is not simply reducible to the relative particularities of a perceiver and that the form itself participates in the perception. The expressiveness of things is not simply a negotiation between a form and the capacities of tendencies of a perceiving subject. It

further expands into *situation*; to a range of immaterial and passing events that fold into the equation, as part of the perception. The deformation enacted in the casting process is not the final act in which these forms are differentially inflected. Their ongoing 'cultural' life continues to inflect them.

So, if the product of the casting process is not simply a static object, what about the process of formation and the experience of making them? Is there a connection between the way it was made and the way that the formal outcome participates in the world thereafter? As Massumi states in the quote at the commencement of this scene: "A thing's form does not reflect its formation. *It inflects it.*"¹² The *Animate Casts* inflect their process of formation because of the degree to which they encourage the sense of a process of deformation. This sense, embedded in the nature of the forms, becomes further inflected by their subsequent engagements in the world, through naming, display and exhibition etc.

12. Massumi (2002b), pp. xxxii-xxxiii.

An important inflection in this context lies in their relation to the digital processes I was trying to explore through making them. The very material, physical range of influences involved in the casting process can be seen as roughly analogous to the field of digitally described influences in the generative technique developed by Lynn. While one may be very analog and the other very digital, both of these generative techniques emphasise that the process of formation involves a field of dynamic forces that are active despite many of their key dimensions or characteristics being more-or-less invisible.

This field-based emphasis regarding the process of formation is similar to the emphasis being made here regarding the process of perception. Generative processes and the perception of its products lie on two sides of a hinge that swings elusively through a field of forces. The role of the process of formation in the ongoing life of the formed is surely an important issue for the value of all this attention to generative processes. Identifying this connection – its behaviours and mechanisms – is a key problem in developing our understanding of emergent behaviour and the relationships between the bottom-up and the top-down, the micro and the macro.

The next scene will leap back in history to the late nineteenth century, close to a hundred years before *Animate Form*, to Heinrich Wölfflin's early attempt to address the very question of how form can be expressive. This offers another version of the relations between creating and perceiving, but arrives at them from a usefully different direction: from expression back to form.

2. Wölfflin and the Emergence of Expression

2.1 The Impression of Architectural Expression`

How it might be possible for static form (such as buildings) to be expressive, was a question that Heinrich Wölfflin implicitly turned to address in 1886, in his dissertation, *Prolegomena to a Psychology of Architecture*. His thesis begins with the question: "How is it possible that architectural forms are able to express an emotion or mood?" This impression we receive, he writes, is understood as the expression of the object. How it might be that architecture could express moods required a conceptual structure for the transmission of feeling. Empathy was the psychological concept that he, amongst a range of others at the time, used to allow for a mapping of feeling between body and building.

Wölfflin notes that most theories regarding the issue of emotional tone, form and style have limited themselves to visual properties. But, he insists, the impressions of the eye are not enough to explain the expressive nature of form. Rather, he turns to the whole body in dealing with this impression, coupling it with the claim that "we understand only what we ourselves can do."¹³ Expression in music, for instance, is only understood in relation to how we ourselves express through the sounds of our voices. Architecture as formed matter, is expressive to the extent that we express with our own bodies: "Physical forms possess a character only because we ourselves possess a body."¹⁴ The issue becomes one of full-bodied empathy, wherein we judge the expression of form according to the state they induce in us via a sympathetic response; we mimetically feel the formal stance of the building through our encounter with it.

For Wölfflin, "Expression is not, so to speak, a banner that is hung out in order to show what is going on inside, it is not something that could just as well be absent. Expression is, rather, the physical manifestation of the mental process."¹⁵ He takes this imbrication further by recognising that



5.21 Heinrich Wölfflin.

13. Wölfflin (1994), p151.

14. Ibid.

15. Ibid, p155.

16. Ibid, p. 155.

the physical expression in turn affects the psychological experience: "As soon as one imitates the expression of an emotion, one will immediately begin to experience the emotion. To suppress the expression is to suppress the emotion. Conversely, the emotion grows the more one gives in to it by expressing it."¹⁶ Wölfflin sets up expression as a kind of circuit where feelings, operating simultaneously through mental and physical processes, fold from the outside into an inside, whereupon it grows and folds out again. The transmission of feeling between bodies and buildings occurs through expression as a processual loop that operates as an intensification and amplification device.

17. The distinction between imitation and becoming has been extensively discussed by Gilles Deleuze and, more recently, Brian Massumi. For an outline of these ideas see: Brian Massumi (1992).

While Wölfflin discusses the *imitation* of emotion, we can take a step deeper into the loop, breaking into the categorical blocks of emotion by moving attention toward affect. Linking Wölfflin's ideas of expression back to the terms discussed in Part 1, 'imitating an expression' can be recast as an affect attunement, as discussed by Stern in terms of vitality affects. I would argue that this is, in fact, closer to what Wölfflin was getting at in that, as Stern wrote, "imitation renders form, attunement renders feeling." In the act of an emotion 'growing,' vitality affects are intensified and inflected by the particular subject through which they are felt and expressed. Rather than the *being* of imitation, there is a *becoming* through expression.¹⁷ Expression intensifies and inflects, where full-bodied affects are keyed into attunements with the vitality affects of surrounding bodies and things. The transmission of affect links things into a field that is shaped by waves of recastings and bursts of amplification that modulate patterns and rhythms of affective movement. The 'life of form' and the question of how architecture expresses mood is part of a field of dynamic relations or a textured field of affect.

18. Wölfflin (1994), p. 160.

The character of the form's 'life' is built up through the refrains or variational patterns that course through the repeated recastings in the circuits of expression. Wölfflin calls this the 'force of form' [*Formkraft*] that he positions as the principle theme of architecture: "The force of form is not only the opposite of gravity (a vertically acting force) but is also that which creates life - a *vis plastica*."¹⁸ This formative force "comes from within rather than from without, like a creative will that fashions its own body." One might call this 'creative will' the *character* of the form.

One of the more important aspects of the force of form is that it connotes a sense of the form's *coherence* or what holds-it-together into a recognisable entity such that it can be felt to express mood and character. This doesn't reside purely in the object but in the tendencies that arise through its engagements.

Puppetry offers a useful image with which to illustrate the operations of the force of form. Puppets manage to convey a sense of their character through a general quality of movement that pervades all their actions. With no variations of facial expression available and their bodies made largely of inflexible, mechanical parts, a quality of movement such as, for instance, floppiness, jerkiness or floatiness, pervades the various actions of the puppet. In other words, tendencies that inflect and infuse the activation contours shaping the various movements of the puppet collaboratively coalesce an overall form of feeling. The character of these actions comes 'from within' via the guiding hands of the puppeteer, but the actions are only ever enacted through engagements, whether this is with other puppets or simply with gravity. This character or form of feeling in the actions of the puppet can be likened to the force of form in buildings. Buildings or static forms don't move in themselves, but as I have explored at some length, formal arrangements can variously suggest a sense of eventfulness and a quality of expression in our perceptual engagements with it; the 'life of form' and the question of how architecture expresses mood is part of a field of dynamic relations or a textured field of affect. These dynamic relations can be seen as akin to the behaviours we can see more emphatically through puppetry. The intelligible will or character that constitutes the force of form arises through collaborating inflections in the contouring of its actions.

While this point is more difficult to discern in his model of expression, in that he suggests that this force "comes from within," the significance of engagements with forces outside of the object is built into his attention to the role of style, which I will now discuss.

2.2 Ornament, Style and Sensibility

19. Deleuze (1988), p. 97.

"The inside as an operation of the outside: in all his work Foucault seems haunted by this theme of an inside which is merely the fold of the outside, as if a ship were a folding of the sea."¹⁹

Robin Evans has drawn attention to the mystical tone to some of Wölfflin's assumptions:

20. Evans (1995), p. 4.

"The sense that Wölfflin claimed to make of these buildings was derived directly from the architectural forms themselves. There was more than a hint of divination in his descriptions... Wölfflin's formalism, far from being abstract and desiccated, was almost mystical in the degree to which true expression was seen to shine through stones."²⁰

21. Stern (2000), p. 157.

The mystical arises through the invisibility of connection between bodies and buildings, the animate and inanimate, where the operations through which empathy – or attunement – occur remain a mystery. Behaviours seem to rise out of an invisible sea, appearing as if by magic. This is where theories of affect become so useful because, as Stern emphasises: "They concern *how* a behaviour, *any* behaviour, *all* behaviour is performed, not *what* behaviour is performed."²¹ This is not only pertinent to theories of architectural affect, but also to the mysteries of emergence. If the key to a stronger model of emergence lies in a model of creative process, Stern's fundamental domain of subjectivity, formed through the operations of affect, offers the mechanisms of that key.

22. Ibid, p. 156.

The mysteries of emergence resonate with the mysticism of which Wölfflin has been accused. In turn, this resonance acts to illuminate some of the problematics facing Lynn's work. Wölfflin's account of how form expresses mood and emotion is tantamount to being endowed with life or, in Lynn's terms, being animate. In other words, Lynn's 'animate' can be equated with Wölfflin's 'expression'. If vitality affects lie at the basis of the operations of expression, equating expression and the animate is reinforced by Stern's definition of vitality affects as "those dynamic, kinetic qualities of feeling that distinguish animate from inanimate."²² If expression shone mystically through Wölfflin's stones, the animate shone unaccountably through Lynn's screen to then, as I will discuss in the next act, wobble with uncertainty as it attempted to fold out and into a building through which it could shine on.

Basking in alternatively named but analogous divine lights, each gazed in different directions. Lynn follows the path of forces becoming impressed into form, while Wölfflin primarily traces out how form impresses its forces into us. But as much as Wölfflin primarily considers how form is expressive, he does touch upon the question of how form is *impressed*, through which he and Lynn make contact and we can start to assemble a fleshier diagram of the loopings of expression. Together, they complete the circuit by filling in the feedback loop. One might call it 'viciously circular' like Bedau did of strong emergence.

As much as Wölfflin's 'force of form' must come "from within", he makes a point of linking this with the more external influences of cultural forces, where the character of place and time fashions the way in which the form is modulated. Wölfflin's prolegomenous conclusion commented that within the movements of his era, the weighty forms of buildings were too slow to respond quickly to rapid fluctuations of sentiment and too big to engage with every minute change of the field. These problems of speed and scale gradually infected the larger forms of architecture with an alienation, where: "The individual forms continue to be used without understanding; they are falsely applied and thus completely deprived of life."²³ Implicitly here, life is embedded in form through its capacity to respond to and resonate with contemporary sentiment, or the surrounding mood.

The problem of life-deprived form is relieved when turning toward the minor or decorative arts. It is with the lines of ornament, lettering and so on, that Wölfflin finds the "pulse of the age" being sensitively mapped:²⁴ "Here the sense of form satisfies itself in the purest way, and here also the birthplace of a new style has to be sought."²⁵ However, this cannot, he insists, work by separating the action of ornament from the overall form. Rather, they must be explicitly knitted together where, for instance, "all the fireworks of Gothic ornament were possible only because of the enormous excess of force of form over matter. Ornament is the blossoming of a force that has nothing more to achieve."²⁶ For Wölfflin, ornament is no less important than the structural, physical forces of an architectural body, becoming "an expression of excessive force of form"²⁷ or, in other words, an excessive living impulse. If the "birthplace of a new style" is to be found at this scale of action, the implication is that it should feed into (and out of) other scales, ushering otherwise alienated big and slow actions into play with sensitive pulsation. The emergence of the new involves a total becoming, an all-over, over-all coordination of affects.

23. Wölfflin (1994) p.185.

24. He writes: "The pulse of the age then has to be felt elsewhere: in the minor or decorative arts, in the lines of ornament, of lettering and so on." (1994), p. 185. This notion is reiterated in his much later book, *Renaissance and Baroque*, where he again argues that the decorative arts are where "formal sensibility finds an immediate and unchecked outlet, and in them that renewal takes place. A new style, in fact, is always born within the sphere of the decorative arts" (1984), p79.

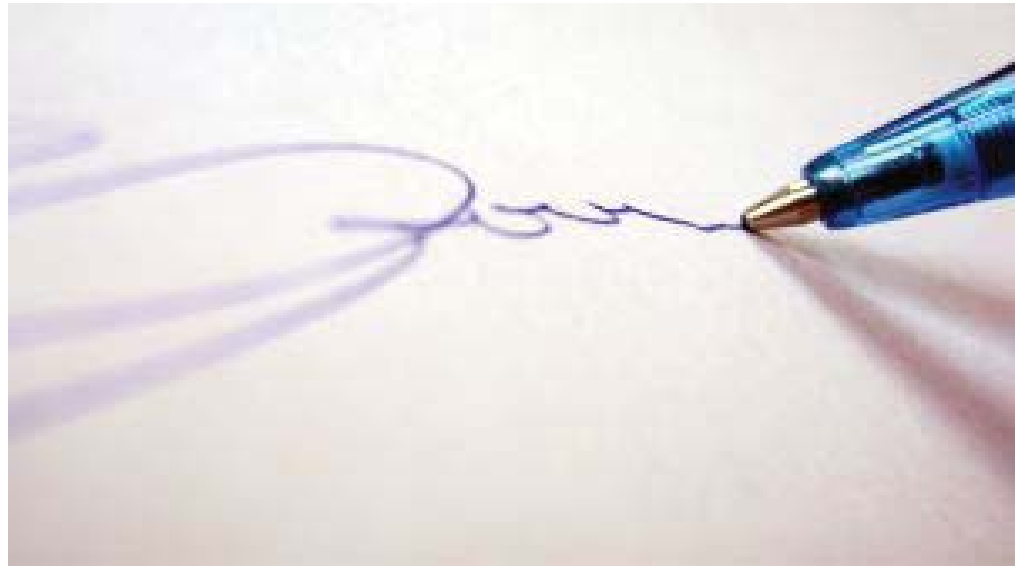
25. Ibid, p185

26. Ibid, p.181.

27. Ibid, p179



5.21 Metal cast type.



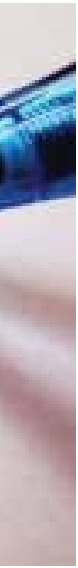
5.22 Signature.

Within this full-bodied idea of architectural expression, there is a tricky set of relations at work. On the one hand there is a force or intelligible will that comes from *within* the overall form of a building, with its excess of force flowing over into ornament. On the other hand, this requires sensitivity to the *external* forces of cultural sentiment, without which it becomes alienated and 'deprived of life'. Ornament seems to be the interface between the internal and external forces, where the flowing over of the internally gathered force of form can finger the pulse of its age, adjusting its clothing and eyeliner to meet with the feeling of the day. How these internal and external force fields become intertwined is a question not directly addressed in Wölfflin's *Prolegomena*. However, it is hinted at in the peripheral margins of his thesis.

Attached to his declarations regarding the importance of ornament and the minor arts, is a footnote in which he takes the care to admit that since printing technology has moved lettering away from hand printing into the standardized fonts of mechanical techniques, the flexibility required for a sensitive mapping of 'the pulse of the age' through lettering has been diminished. He writes: "Since we started to print from cast-metal types, this easy flexibility has admittedly disappeared. Today we have become accustomed (in standard [German] type) to put Baroque upper case letters in front of Gothic lowercase letters."²⁸

28. Ibid. p. 185.

This backgrounded observation initially reads a little like an apologetic concession to an oversight or exception to his claims. But this observation is deeply significant here because it draws attention to the technologies and techniques of production in the process of formation. The crucial implication of his note is that for architecture to avoid becoming "deprived



of life" (of not being animate), it's *process of formation* must be capable of responding with supple alacrity to the forces or influences in which it is situated. How something comes-into-being is involved with the technologies of its making. Cast metal types involve quite different force relations within the act of being printed to, for instance, the force relations within hand written type. The latter involves more sensitivity than the former: the line work can waver, wobble and differ in the sweep of its curves or the width of the line. A pre-given form, cast in metal and pressed into the page will allow for far less sensitivity to contingency within the moment of making. This level of responsivity becomes embedded and embodied in the form or line-work produced.

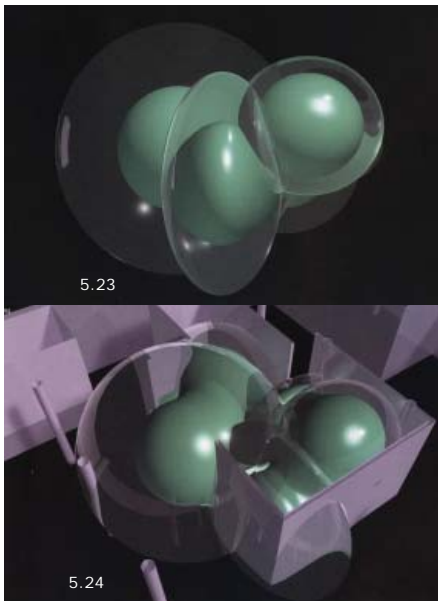
In Wölfflin's *Renaissance and Baroque*, he addressed these issues again, emphasising that while technical factors may have a part to play in stylistic development, they cannot be the cause of a style: "The forms which result from technical necessity...can only endure if they fit into a formal taste already previously established."²⁹ An implication of his statement is that the nature of cast-metal type endured and proliferated through printing technologies because they were part of a particular kind of *sensibility* or sense-ability: *the ability to sense*. Rigidly formed things would seem to have dulled their ability to be affected by situational variations, while sharpening up their ability to hold onto their internally held relations. Perhaps, then, what we see mapped in printing technologies from the fifteenth century onwards, is a sensibility pertaining to a firmness of being. Ornament, whether it takes on the minimal gesture of the whiteness of a wall³⁰ or a florid, art nouveau balustrade, is an expression of sensibility: where the 'force of form' meets with and responds to the sentiment of its surrounds.

Sensibility carries or conditions the growth and development of style. Wölfflin identifies style as the embodiment of sensibility where: "To *explain* a style then can mean nothing more than to place it in its general historical context and to verify that it speaks in harmony with the other organs of its age."³¹ Style rests on the way in which a given form resonates with the general sentiment and character, deportments and social composites of its age. It is always about the more '*global*', *overall quality*, as amodally perceived through a field of instances or 'organs'. Wölfflin believes that this field of cultural, situationally dependent forces may or may not be sensitively mapped into the forms created within its atmosphere, depending on the sensibility at work. If not, the price is potential alienation, similar to that discussed via McMahon and Benjamin in Act 1.

29. Ibid, p79

30. For an account of the white wall and ornament in modernist architecture, see Wigley (1995).

31. Wölfflin (1984), p79



5.23-24 Greg Lynn, frames of generative animation for the Artists Space Installation (1995).

32. Certainly, it is clear that digital or information technologies are active players in architecture's turn toward animation and the animate. However, if we reduce the cause of these architectures of animate persuasion to their production via digital technologies (such as animation software), the actions which render this encounter substantial will not be heard. The cast-metal types did not, in themselves, diminish the flexibility of lettering. They were only one actor in a field of complex interaction. The role of the digital bears the same status.

33. Lynn tries to claim that his forms do not appeal to an original form or type, being a "multi-type". But each of the processes do commence with a basic form (or 'primitive/s') that is subsequently deformed.

In that discussion, it seemed as if the modern, alienated, distracted subject lacked an image of the whole in which to locate itself and feel connected to a field beyond itself. But perhaps it is less that the image is absent, but that the dominant image is one composed of rigid fragments, between which the connections are not necessarily evident. If the image is one that does not encourage a sense of eventfulness (as in the stories of the circle and the line), the background modulating field through which connectedness operates will tend to be suppressed.

2.3 Non-Standard Behaviour and the Flexible Mould

For the purposes of this thesis, Lynn's work plays the role of exemplifying the field of processual architecture where his particular sensibility is indicative of more than his own specific practice. Lynn's early animations might be seen as contagious diagrams that subsequently unfurled in a variety of ways through that broader field of research. These were characterised by a supple, inflecting, responsive alacrity. Here, the coming-into-being or the emergence of architectural form is imaged as a process with the sensitive plasticity that Wölfflin gives to ornamental blossoming.³²

A textured field is the background, linking diagram of the analogy I have been drawing between the sentiment a cultural milieu as discussed by Wölfflin, the field of forces in the digital animation software discussed by Lynn and the fields of influence, both physical and immaterial, that I felt my way through in making and working with the *Animated Casts*. Any object is formed within a 'lived space': a field of forces or influences that infinitely thicken potential in the event of formation. The degrees and kinds of sensitivities and perceptual capacities at work in the process of formation tempers the involvement that this infinitely dimensioned potential can have within that formative event. With the diagram of the textured event field linking the examples discussed here, we can now recast Wölfflin's notion of how style emerges with an attention to the behavioural tendencies within that field. This occurs through another linking diagram that is lodged in the micro-behaviours of the textured field: the 'process diagram' of non-standard processes of production.

In both Lynn's animations and the animated casts, there is a primary surface or skin that envelopes the casting of an object - a digital surface in the former and a latex skin the latter. Both deform a given shape enacted

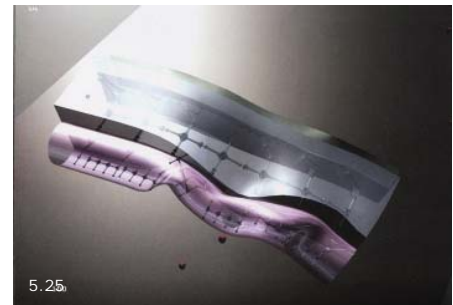
through a flexible surface. These surfaces are the clearest site in which, like ornament, internal and external conditions coalesce. Both skins operate as a *surface of negotiation*.³³ The responsiveness of this enveloping skin enables it to *negotiate* a final form through the process of formation.

But in comparing ornamental blossomings with contemporary processual architecture there is a scale shift: rather than weighty forms supporting the supple, responsive ornament, walls move, bend and twist with an ease of flexibility. The quivering secretions of excessive force through ornament seem to have expanded into another scale of action through folding back into the force of the form from which it was expressed. If the “birthplace of a new style” was to be sought through the plasticity that ornament offers, then the stylistic eruption of ‘folding architecture’ would indeed seem to have been born from such a plastic place. As such, if we follow Wölfflin’s assumptions, these forms manifested a new style because they were responsive and sensitive to contemporary sentiment.

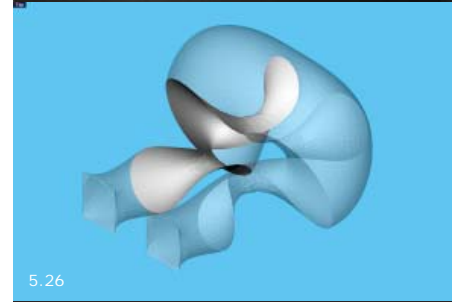
If we think of each of these surfaces as a kind of mould that casts various forms, the deformability of these moulds run contrary to primary modes of production characterising the industrial age, where standardisation aimed to eradicate variation and deformability in the name of efficiency. As with cast-metal type, the rigidly formed cast is relatively indifferent to the specificity of the moment in which it was formed because its mould is simply not capable of responding. The moulds which shape the taps of our bathrooms are not endowed with a flexibility to be affected by the material they set into shape (they have to remain unaffected in order to produce another just the same and to ensure that it will function as planned). This is efficient, useful and predictable. Processes of production and their outcomes may not contain any surprises but they tend to deliver what they promise.

On the other hand, the flexibly moulded cast is a set up for an element of surprise. Where the mould, or that which holds a primary power to affect, also retains the power to be affected, it can respond to a diversity of influence, without losing its role as the dominant shape giver. It is not efficient, it is not entirely predictable, but it is responsive to particularities of the situation.

At risk of over generalising but for the benefit of clarity, we can juxtapose rigidly formed things as exemplifying processes of standardisation with variably or flexibly formed things as exemplifying non-standard processes.



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5.30-31 Comparison of standard and non-standard formations.

These can be understood as two general sensibilities that are less opposed to one another than inseparable companions with a long history of tense relations. Non-standard processes of production have been the subject of much discussion in the midst of architectural explorations of digital tools. Lynn's work and the *Animated Casts* are direct explorations of this particular sensibility. Wölfflin's agenda was also implicitly biased in this direction.

I should emphasise that it would be a mistake to say that variable casts are expressive while rigidly formed casts are inexpressive. The distinction being made cannot be reduced to an on/off or expressive/inexpressive dichotomy. Standardised objects are no less expressive of their formation than those formed through a situated responsivity or capacity to both affect and be affected. Any rigidity or shape determined prior to the act of material formation is always felt in the object: a standard shower tap expresses its conformity to a pre-given mould. Like, again, the stories of the circle, the line, the printed number or letter, objects of these kinds of conformity simply don't tend to encourage a sense of eventfulness.

The emphasis I am making here is aimed at how to understand the virtuosic and performative nature of the product of any such process of formation. While standardised processes aim to rigidly produce *sameness*, a non-standard process produces a *dynamic consistency*. Consistency is a property of holding together; it is a coherence or a kind of agreement amongst its constituents through which it holds together into some recognisable quality that we might call character or style. Any standardised object has a consistency that remains uniform across the many instances of its reproducibility, presenting a very stable and rigid character. A non-standard object, on the other hand, has a consistency that is close to but not identical to other instances of its series; a dynamic consistency emphatically arises across the series, because of the embedded relations between repetition and variation, presenting a more volatile or dynamic character or style. The non-standard process amplifies a sense of an emergent quality of this kind, which as a 'product' is inseparable from the multiplicity that creates it and pervasive in that it modulates that very multiplicity.

This variation through repetition allows for a feeling of the limits: tendencies become clarified through casting them into different conditions. The non-standard series highlights something that the standardised series

suppresses; *tendency*. Any formation needs to move through variation in order for rigid limits to loosen into tendencies. With non-standard processes of formation, style becomes quite emphatically an accumulation of *behavioural tendencies*.

The embedded political and social resonances of this behaviourally oriented sensibility are implicit to contemporary processual architecture. While often seen as a terrain of superficial formalism, I would argue that there are deeper ethical dimensions being quietly explored. The importance of articulating these implicit dimensions lies in opening up paths through which to develop upon the broader and deeper value of this field of architectural research.

If style emerges through a global, overall quality felt through multiple instances, then the variational series of casts and the series of frames produced by an animation, can then also be seen as collaboratively producing an overall global quality pertaining to that particular generative process. Rather than simply choosing a particular instance from the animation or series, there is perhaps more to be gained from discerning this global texture in informing the next moves. This point becomes significant in the next act, when discussing how one might assess the relationship between the qualities or character of Lynn's animated diagrams and his Presbyterian Church project.



5.32 Greg Lynn, machined forms for Alessi coffee set (2000-2003).



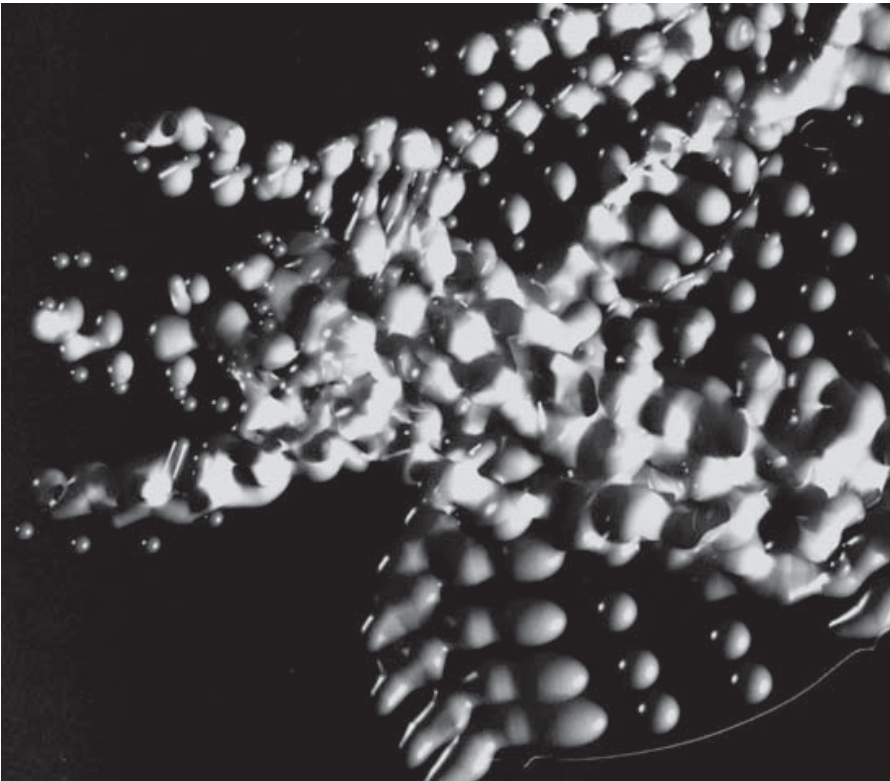
5.33 Greg Lynn, renders for Embryological House series.

Act 6. Affective Diagrams and the Problem of Translation

Act 6 puts Lynn's aims to an especially challenging test, by exploring how they have survived the sensitive, volatile and difficult problem of translation from drawings to buildings. This is explored with particular attention to the developments and revisions of the idea of the 'diagram' in architectural discourse in the late 1990s, where it became, I argue, more embedded in the transformational aspects of translation than it had previously been. I discuss this revised notion of diagrams as 'affective diagrams', a notion that has an affinity with Brian Massumi's concept of the 'biogram', and stands as the basic tool for the mode of composition being articulated in this thesis. Through identifying weaknesses that become evident through translation, I explore other evidence in an attempt to signal areas of design activity requiring attention.

The Act is launched through Robin Evans' essay, 'Translation for Drawing to Building', and his detective work regarding Phillippe de l'Orme's 16th century architectural animations and geometrical trickery. Evans reveals a sleight of hand in de l'Orme's work that covers over a disjunction between what he enacted and what he said about that design enactment. This points to the qualitative transformations always at work in acts of translation, and the cultural tendency to deny them in favour of technical control and the neat completeness of rational systems. The discussion of Evan's essay is used to illuminate some related problems in Greg Lynn's work, where his claims regarding the work remain represented rather than more deeply enacted or embodied. This points to a blindspot or gap of attention that, at some cost, evades the messier and more volatile problem of qualitative transformation.

These problems have a poignant relationship to the intense revision of the 'diagram' in architectural discourse in the late 90s, where the diagram itself becomes more volatile, operating beyond delimitations of critical, ideological or technical control. After a discussion of this discursive revision of the diagram, wherein the focus shifts to 'affective diagrams', some gaps of attention in Lynn's design process are brought to the foreground. This is done through a juxtaposition of diagramming in the art practice of Francis Bacon with the translation between Lynn's digital animations and his Presbyterian Church project. As a way of tracing out the depths of this gap in attention, this gap is located in terms of the compositional stance (or posture) adopted by Lynn, evidenced through his writings on architecture. This occurs through juxtaposing his writing manner with that of Wölfflin. In short, the behavioural tendencies of the designer or author are implicated within the processes of formation (and the behavioural tendencies therein) discussed in the previous Act.



6.01 Greg Lynn, Bucharest urban design competition study using particle animation flows to define variable densities across site.



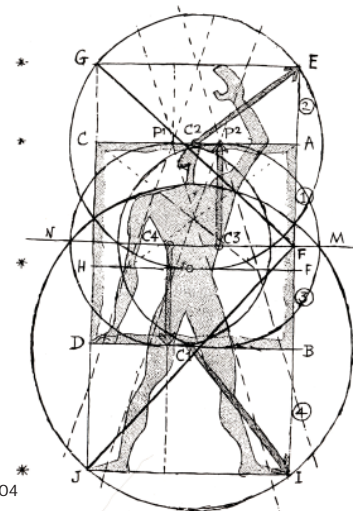
1. Tricky Translations

Robin Evans opens his book, *The Projective Cast*, with a note on the manner with which geometry is associated with idiocy as much as cleverness. With geometry, he writes:

“there is something desperately incommunicative about it, something more than a little removed from the rest of experience to set against its giant claim of truth. Flaubert ... defines a geometrician as ‘travelling on strange seas of thought - alone.’ And when Joseph Conrad wished to characterise the futile effort of concentration made by the earnest but mentally retarded youth Stevie in *The Secret Agent*, he would describe him as ‘seated very good and quiet at a deal table, drawing circles, circles, circles; innumerable circles, concentric, eccentric, a coruscating whirl of circles that by their tangled multitude of repeated curves, uniformity of form, and confusion of intersecting lines suggested a rendering of cosmic chaos, the symbolism of a mad art attempting the inconceivable.’”¹

Geometry, obviously, is no stranger to architecture and as Evans suggests “all architects will, from time to time adopt the posture of Stevie, looking much the same as he when embroiled in the reveries of design work.”² The *experience* involved in such a posture, however, is very rarely discussed. Perhaps the apparent idiocy, or desperately incommunicative withdrawal from the rest of experience, is caught up with our inability to offer an acceptable account of what occurs in the immersive event of designing. It is then only by stepping out of this mode, back into the landscape of shared experience and normative social conduct that something clever can be said.

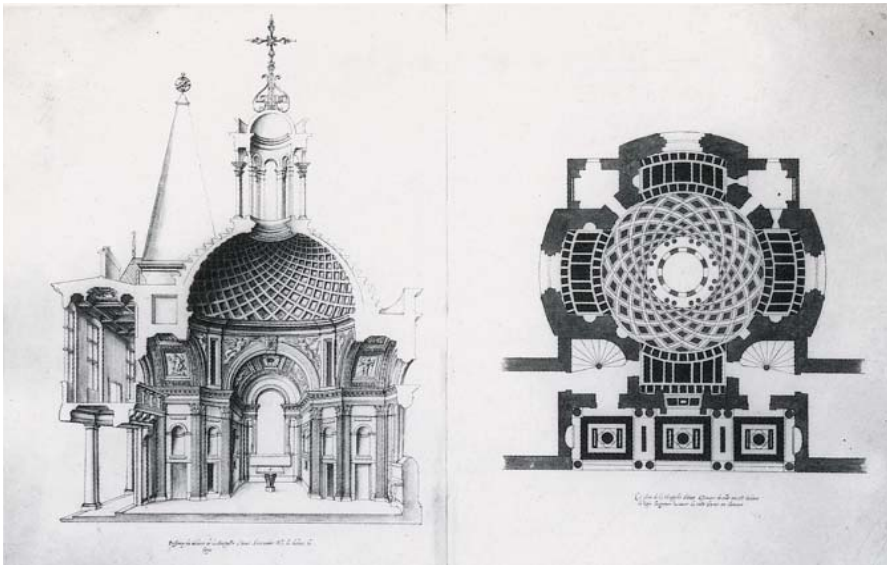
But when we confront a designed artefact, we are often struck by an intelligence that seems embedded in the thing itself. Very often, an account of the artefact offered by the designer does not live up to a more embedded cleverness, one appreciated through a more aesthetic vein - just, it would



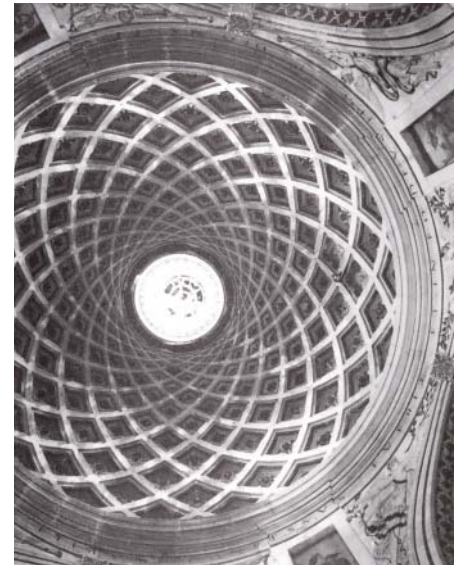
6.02 Architect and his compass.
 6.03 Jacopo de' Barbari, Portrait of Fra Luca Pacioli with a Young Man (1495).
 6.04 Le Corbusier, The Modular (1950).

1. Evans (1995), p. xxv.

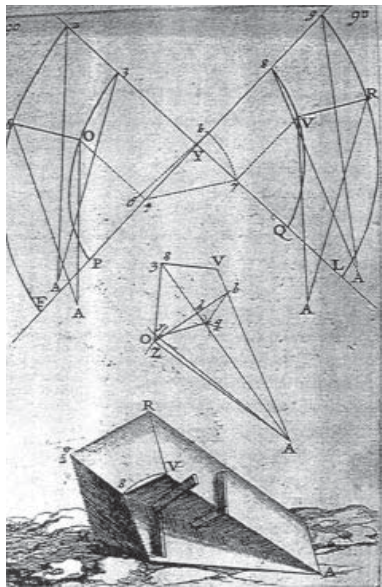
2. Ibid.



6.05 Plan and perspective section of the Royal Chapel, Anet. Engraving by J.-A. du Cerceau.



6.06 Dome at Royal Chapel, Anet, by Philibert de l'Orme.



6.07 A block of stone and its trait, from Abraham Bosse, *La Pratique du trait* (1643).

seem, by looking at it. The split between intellectual, verbal knowing and inarticulate, embodied knowing has attained an almost 'natural' status, packaged up neatly but ambiguously in words like 'beauty' and 'intuition'.

In Robin Evans's paper 'Translations from Drawing to Building' he unearths and draws attention to an historical instance of a split between an architect's claims and an actuality of his design process that, it would appear, was actively concealed. He does this through a close examination of something whose "virtual absence from our account of the making of architecture"³ has managed to conceal its "fugitive character"⁴: the drawing. But his examination of the drawing is not concerned so much with the thing itself as the part it played within the moves the designer made. Evans's concluding remarks suggests the possibility of writing a history of Western architecture that concentrates on the manner of working rather than style⁵ or signification. Such a history, he suggests, would in large part "be concerned with the gap between drawing and building. In it the drawing would be considered not so much a work of art or a truck for pushing ideas from place to place, but as the locale of subterfuges and evasions that one way or another get around the enormous weight of convention that has always been architecture's greatest security and at the same time its greatest liability."⁶

One of his case studies is the dome of the Royal Chapel at Anet by Philibert de l'Orme (1547-52). Evans' clever detective work reveals a blatant untruth in de l'Orme's claims regarding the use of a particular technology – projective geometry – and the particular technique – of parallel projection – in generating the quite spectacular behaviour of this dome. The hemispherical dome is patterned with "a net of lines", Evans

3. Evans (1997), p. 175.

5. Evans use of the word 'style' here is different to the way in which it is understood in this thesis, where style is inseparable from the manner of working.

4. Ibid.

6. Ibid, p. 186.

writes, whose “properties, hard at first to describe in stylistic, geometric or structural terms, are directly accessible to vision... The effect is of a coherent diffusion and enlargement or, conversely, of concentration, remoteness and rotary acceleration towards the lantern.”⁷ The experiential qualities of the dome are intensively and almost paradoxically dynamic, suspended in a tensile double movement of self-contradiction and reinforcement. The floor pattern enacts a similar movement, albeit in a flatter way. As Evans demonstrates through his own drawings, the dome pattern is produced through the projection of a nest of overlapping circles on a flat surface or plane onto a hemispherical surface. The production of powerfully qualitative affects produced through the multiplication of circles is perhaps indicative of that which the retarded youth Stevie was immersed in, as he drew his “coruscating whirl of circles.”

De l’Orme explicitly claimed that the geometry patterning the interior surface of the dome were projectively mapped along perpendicular lines into the geometrical pattern inlaid in the floor directly beneath it. As Evans shows, the geometry of de l’Orme’s floor pattern and the dome pattern do not *actually* map into one another in such a way. The directional push and pull of the dome’s dynamic movement is tripped up by the experience of this pattern when faithfully, perpendicularly projected onto the floor. If you project the dome pattern onto a flat surface, or a floor plan, it produces an image rather like the plan view of a donut such that the powerfully directed perceptual movements in the dome bulge into a torus on the floor.

Evans then uncovers the slight of hand that de l’Orme undertook in making the floor inlay below the dome exhibit the same directionality and quality of movement as the elaborately formed action above it: “rather than dutifully deposit a piece of didactic evidence on the floor, de l’Orme tinkered with it, expanded it and then clipped off its outer rim until it *looked* sufficiently like the system of intersections to which it had given shape.”⁸ In this way, the floor and the dome then more readily *appear* to directly map onto one another through their shared tendency of perceived movement. De l’Orme breaks the rules in order to make them *appear* to remain in place.

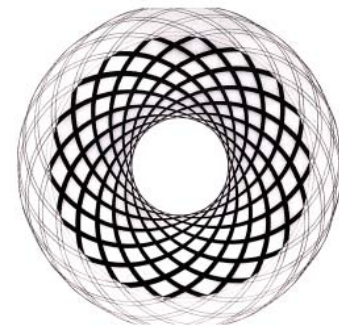
De l’Orme had to be entirely knowing in his cunning cover up. This was no oversight. Evans takes de l’Orme’s *Premier Tome de l’Architecture* (1957) as evidence. This book was “packed with abstruse stereotomic diagrams involving projections of nameless exotic curvatures. One of the remarkable features of these is that every last one had its origin in a circle. But, as the circles are collapsed, elongated, ramped then projected



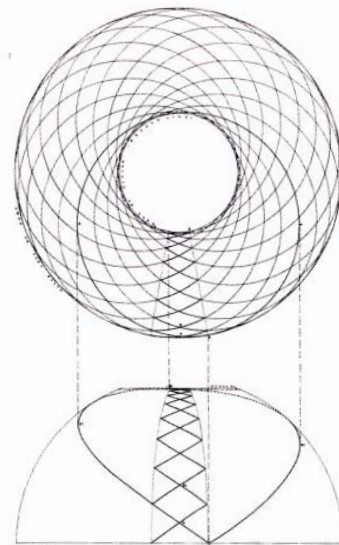
6.08 Photograph of floor paving at Royal Chapel, Anet, by Philibert de l’Orme.

7. Ibid, p. 173.

8. Ibid, p. 178.



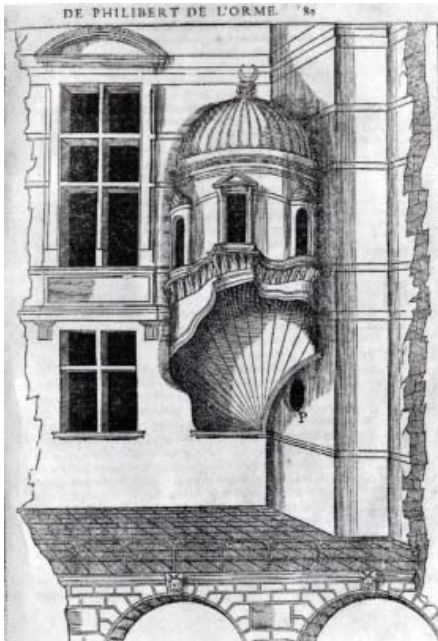
6.09



6.10

6.09 RRobin Evans’ drawing showing the geometry of the floor paving at the Royal Chapel, Anet, with the outer rim that was clipped off by de l’Orme.

6.10 Evans’ plan for the tracery of the dome of the Royal Chapel, Anet. Drawn by Robin Evans.



6.11 Philibert de l'Orme, perspective of the trompe at Anet, 1547 – 1551, from *Le Première tome de l'architecture* (1567).

9. Ibid, p. 177.

10. Evans (1997), p. 185.

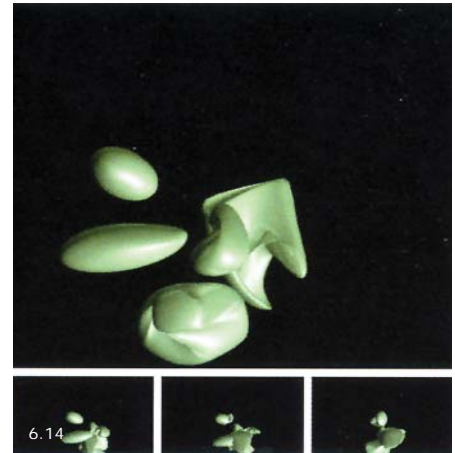
11. Ibid.

into cones, cylinders or spheres at glancing angles, they metamorphise into thoroughly plastic, volatile shapes, commensurable only through the procedure of projection itself."⁹ Given this research into the metamorphosing behaviours of projection, it seems unlikely that he was not entirely aware of the moves he made.

The question remains: why was de l'Orme compelled to enact such a cover up? The issue of mastery, through technical means, over the more volatile dimensions of affect rears its head. A desire to control the messier, less controllable operations of affect (and the bodies that transduce them) through rational means is embedded, as earlier discussed, in the very birth of aesthetics. This denial, broadly at work in the idea of "neatness as sign of civilisation"¹⁰ has had counter reactions, as Evans writes, that has operated "in favour of the unpremeditated and unregulated as signs of art and feeling."¹¹ Evans is in favour of neither, suggesting that both need to be folded into our manners of working. Between geometry and affect – between poetry and physics – is the art of emergence or an ethico-aesthetic know-how. The desire for neat, wholesome, mindful bodies has led to all sorts of denials that have laced geometry with a strange mix of idiocy and cleverness.



6.12 Philibert de l'Orme, frontispiece to the Premier tome (1567). 6.13 Greg Lynn, Stereolithography models of the fourth version of the House Prototype (1994).



6.14 Greg Lynn, Henie Onstad animation.

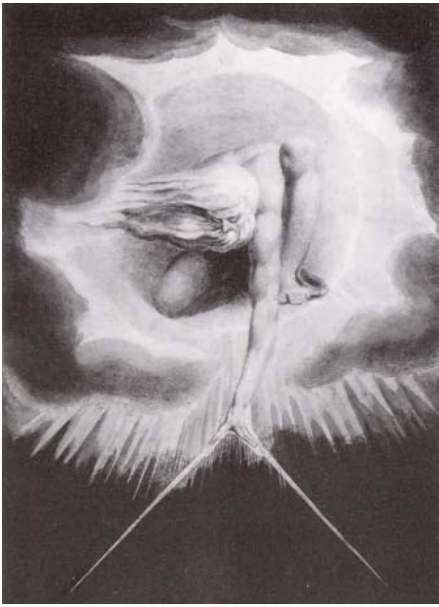
2. Unwholesome Bodies and attention to affective movement

The story of de l'Orme's denial is a telling tale that illuminates some related problems in Greg Lynn's work. At first sight, the relationship between drawings and buildings in the examples of Lynn and de L'Orme would seem remarkably different. The later is thoroughly calculated and clear, even if a complex puzzle involving deliberate subterfuge. The former, by contrast, is loose, undefined and simply puzzling. But clearly there are remarkable similarities in terms of the actions of their design processes. The metamorphosing shapes of de l'Orme's *Premier Tome de l'Architecture* would seem to have a certain geometrically dynamic sensibility in common with Lynn's *Animate Form*. Within their respective technologies each sets about generating their designs through propelling the static into dynamic motion.

For De l'Orme, as Evans writes, "Parallel projection ... engendered more potent forms from less, and did it by an ingenious, regulated distortion of a shape regarded, by common consent, and by de l'Orme himself in *writings* on architecture, as perfect to start with: the circle."¹² Through de l'Orme, the perfect and simply resultant idea of circles (as discussed in Act 2) is shown to conceal a potential writhing volatility. For Lynn, circles becomes spheres and are metamorphosed into blobs where, as he writes: "... even what seems to be a sphere is actually a blob without influence ... complexity is always present as potential even in the most simple or primitive forms."¹³ The lines of parallel projection are somewhat akin to the vectors or forces of animation, in that each renders geometry dynamic through the transformative action defined by the parameters set in place. Both architects, in the very terms through which Lynn defines 'animation', are animators. De l'Orme however, in virtually every sense possible, retains the circular perfection that he simultaneously perverts. He maintains the purity of geometry, even if he reveals (and

12. Ibid, p. 178.

13. Lynn (1999), p. 31.



6.15 The Ancient of Days, by William Blake. Frontispiece to *Europe: A Prophecy* (1794).



6.16 Giacinto Brandi, *L'Architettura* (?), seventeenth century.

conceals) that it can behave in less than pure, volatile ways. Lynn, on the other hand, explicitly rejects any hold upon the ideal or purity of geometry. And where de l'Orme slyly conceals that when pure things move from one situation to another their demeanour is less than strictly dependable, Lynn longs for the loosely pliable, whose seductive software behaviour, flatteringly set against a black background, have no easy way of qualitatively surviving a step out into other landscapes. As I will go on to argue, Lynn's problem produces some unwholesome bodies whose gaping holes bear witness to an inverse set problems for the art of translation. As Evans comments in this paper: "What comes out is not always the same as what goes in."¹⁴

On that note, I want to return to the very last sentences of Evans's 1986 essay, which I would suggest lead us directly into the opening section of *The Projective Cast* quoted at the outset of this Act and, perhaps, reveals the nature of the entire project of this later book, published two years after Evans's death in 1993. After having pointed to the stories hidden in drawings, he professes:

"This is one of my ambitions: the history of Blake's architect geometer has been written a hundred times (Fig 15); I would like to write the history of Giacinto Brandi's (Fig 6.16), not, I would hasten to add, because she is young and pretty, but because of the uncharacteristic expression on her face in and in her posture. It is the kind of expression normally reserved in seventeenth century painting for prostitutes and courtesans. The picture's subject is uncertain, its title a modern supposition resting on the fact that she holds dividers, nothing more. One might ask what such a figure is expected to do with the instrument she shows us."¹⁵

One might also ask what Lynn really expected of his digital instruments, as well as wonder about the relation between his design posture and his architectural expression. But in this case the portrait is not painted on a canvas, it is scattered across his instances of presentation: in the images and essays composed and chosen for publication. This extract, from an essay first published in 1992, calls for a less than rigid geometrical description accompanying an unwholesome body:

"In systems of proportion, architecture assumes a natural relationship between geometry, with its claims to exact measure, and the unified stasis of an organism, with its claims to wholeness...Yet we should beware of any architecture described as wholesome or organic, for the logic of the organism is the logic of self-

14. Evans (1997), p. 181.

15. Ibid, p. 186.

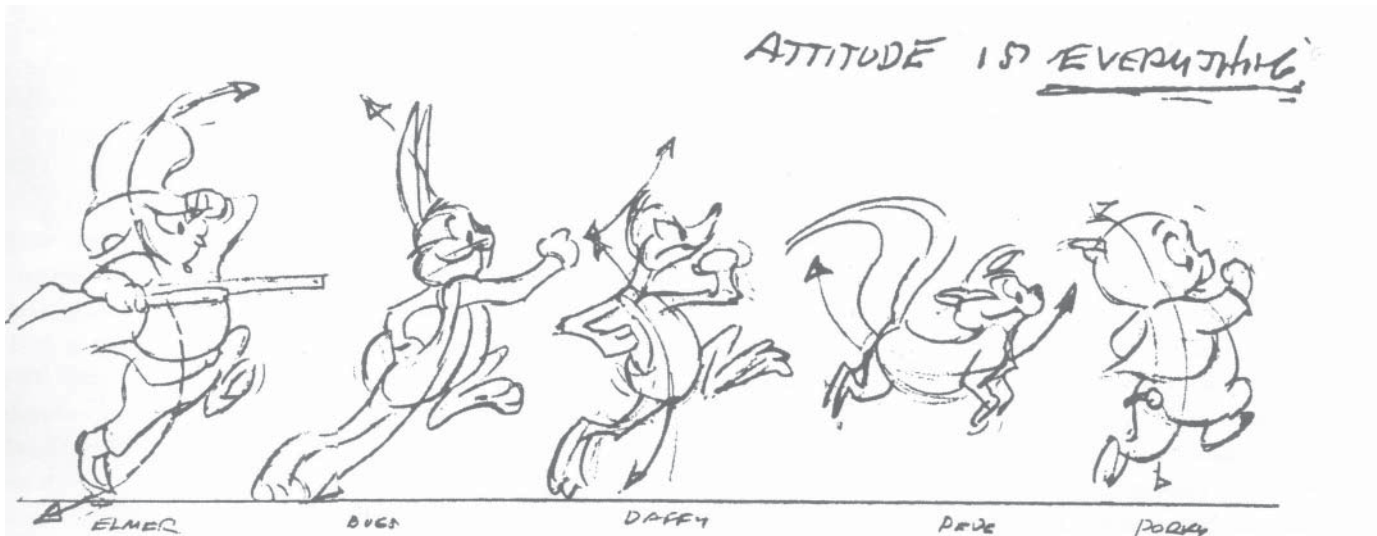
enclosure, self-regulation and self-determinism...To disentangle the pact between organic bodies and exact geometric language that underlies architecture's static spatial types is a monumental task. Any attempt to loosen this alliance must simultaneously deterritorialise the autonomy of whole organisms and replace the exactitude of rigid geometry with more pliant forms of description."¹⁶

16. Lynn (1998), p. 41.

In developing an architectural stance pertaining to a dynamic world rather than one populated with static objects requires, Lynn suggests, a double dissolution of the past relation between organic wholes and geometrical exactitude. Lynn's *Animate Form* presents a way of transforming rigid geometries into "more pliant forms of description".

But the deterritorialisation of organic autonomy in Lynn's work operates primarily in a representational manner. In other words, it is represented more than practiced or enacted. This is an aspect of a lack of attention – that is in no way unique to Lynn – to the role of one's own embodied stance and affectivity in the act of doing - whether critiquing, analysing, designing or whatever. His body, reduced to a critical eye of judgement, is an apparently autonomous organism: self-enclosed, self-regulated and self-determined in the neutral space of objective observation. Through maintaining a distance, he keeps his body whole, not opening it up to "more pliant forms of description." His own decisions are never discussed; the process is presented as an autonomous one, even if it *represents* an alternative. And so his blobs, their autonomy partially deterritorialised within the representational space of the software, could only enjoy such open, dynamic lives when held within that digital system. In a lack of attention to the transmission of affect, the move from screen to lived space becomes rather problematic in the complex process of translation from blobs to buildings.

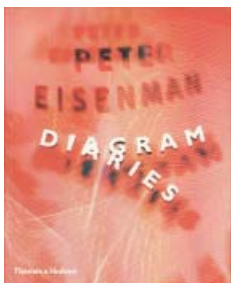
But the involvement of these representations in lived space, were *always actually* going on: the designers' embodied acts were, after all, *always* part of the process. The events of the design process as it happened were sensed, felt and perceived in particular ways: they were part of the sensual, affective textures of events. The transmission of affect is always part of the aesthetic judgements that guide the design process. As I will later argue, these affective textures just weren't (yet) ingested into the sensibility and style through which Lynn discursively operated. This makes it difficult to recognise and acknowledge the *affective movement* that is crucial to the ongoing life of the digital diagrams and how it might guide their translation into built form.



6.17 Character sketches.



UN Studio (1999).



Eisenman (1999).

3. Diagrams Coming to Life

Lynn's call to replace "the exactitude of rigid geometry with more pliant forms of description" was accompanied by a particularly intense, if brief, resurgence of interest in the idea of the diagram in architectural discourse the late 1990's around the same time as the arrival of *Animate Form*. Here, the diagram became a tool that was similarly de-rigidified and rendered more lively. One of the key texts of the period, *ANY 23; Diagram Work: Data Mechanics for a Topological Age* (1998), was edited by Ben van Berkel and Caroline Bos (UN Studio). This included essays from Stan Allen, R. E. Somol, Peter Eisenman, Manuel De Landa, Karl Chu, Brian Massumi, Greg Lynn, Mark Rakatansky, Andrew Benjamin and Sanford Kwinter, amongst others. This publication was followed by the discussion of diagrams in the book on the work of the editors, UN Studio, called *Move* (1999). In the same year, Stephen Perrella's *Hypersurface Architecture II* issue of AD published a paper by Brian Massumi titled 'Strange Horizon'. Implicitly extending upon his previous paper in ANY 23, 'The Diagram as Technique of Existence', Massumi's 'Strange Horizon' discusses the computer assisted techniques such as those of Greg Lynn in relation to the "abstract space of the body." Massumi further extended this paper in a chapter of his *Parables for the Virtual*. Here, he introduced his idea of the 'biogram' as a "lived diagram, based on already lived experience"¹⁷ – a concept that has offered a great deal to the idea of 'affective diagrams' developed in this thesis. This issue of AD also included a paper by myself, 'Falling into the Surface'¹⁸: the earliest of my attempts to articulate the ideas to be developed in this thesis.

Also in 1999, Peter Eisenman's *Diagram Diaries* was published, which traced out 30 years of architectural research in which the diagram was a key tool in developing a critical approach to architecture. While Eisenman proclaims great faith in the importance of being critical, he traces out a curve through which the diagram as an instrument of a critical architecture

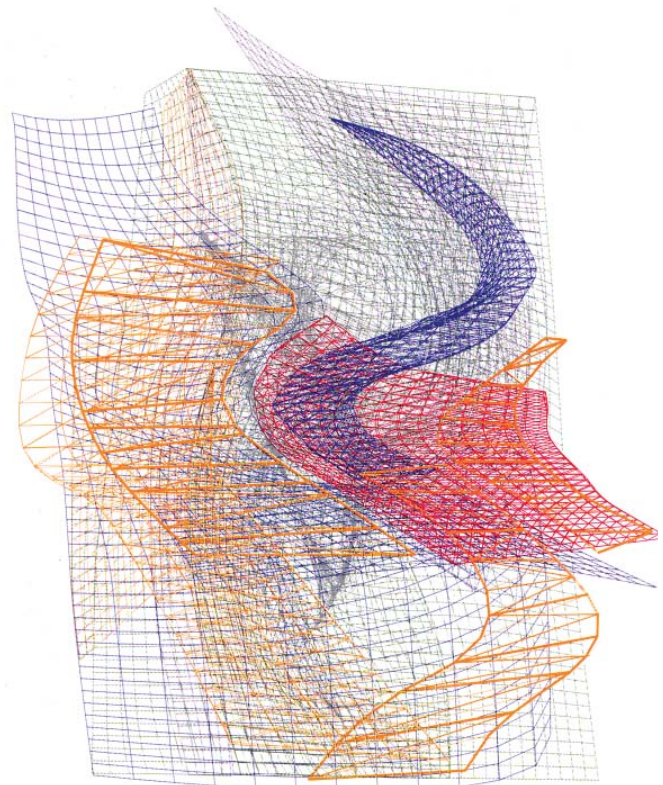
has been forced, more or less against its will, to succumb to something else. Eisenman's book moves sequentially through his work mapping out the transformations that have occurred in his investigations that, more than anything else, interrogate the possibilities for intensified criticality in architecture. This critical activity, mapped out and produced through diagrams, is understood as an ideological operation. Toward the end of this text, he writes:

"I no longer feel compelled to insist upon an ideological sub-structure in my own work. If one looks back on the work, historically, thirty years from now, will it be said that this loss of ideology was a late period, a playing out of an endgame? Or will it be said that this publication marks a new opening to something else, a freeing of the work from an ideological necessity?"¹⁹

The fate of this ideological sub-structure lies in the fate of the diagram that:

"has come full circle from the strategies of reading to the tactics of visceral experience. At the same time, the diagram seems to disappear from the built work ... it becomes more or less a virtual entity, rather than being made explicit in the projects. This is because the diagram becomes more of an engine in the projects rather than something which transforms itself into a physical reality...these diagrams shifted the focus of the reading strategy from its origin in formal relationships, and then linguistic and textual relationships, to the possibility of reading affective relationships in the somatic experience itself."²⁰

As the diagram disappears both into and out of the projects, such that the diagram is present within but no longer explicit, it would seem to be flailing in the outside of discourse, gasping and squirming in silence. Somehow, critical architectural rigour would seem to have been forced to confront its own silence. This struggle can be traced back to his paper, 'The Author's Affect: Passion and the Moment of Architecture', delivered at the 1991 ANY conference.²¹ Like Stevie immersed in "strange seas of thought", Eisenman acknowledges his confrontation with, perhaps, the kind of 'strange horizon'²² implied in Massumi's 'biogram' concept.



6.18 Peter Eisenman, Staten Island Institute.

19. Eisenman (1999), 207.

20. Ibid, 208-9.

21. Eisenman (1991).

22. See Massumi (2002a), 'Strange Horizon: Buildings, Biograms and the Body Topologic', pp. 177-207.

23. Lynn (1999), p. 40.

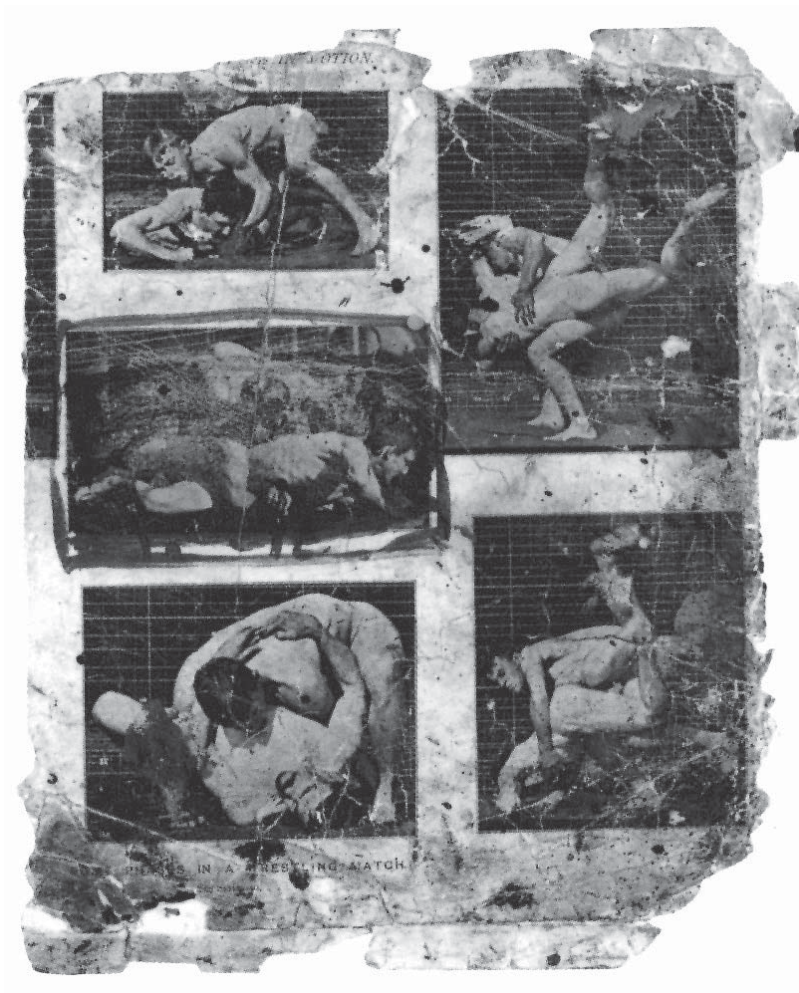
24. Deleuze (1988), p. 72.

25. Ibid, p. 73.

26. Brian Massumi's concept of the 'biogram' has informed the idea of the 'affective diagram' very significantly. A substantial section that explored this connection has been removed from this thesis for the sake of word length and brevity, but the significance of the biogram here ought to be acknowledged.

Across the various publications on the subject, it was clear that the diagram became not just a tool with which to investigate or generate, but a tool that was in itself being re-investigated and regenerated. In general, a common tendency in this reappraisal of the role and nature of diagrams was an implicit desire to render them more pliant, responsive and performative. Like 'Folding' and its subsequent 'animate' strivings, the invigoration of the diagram was heavily related to Deleuzian philosophy. The configuration inherent to the concept of the diagram channels its way as a key artery through Deleuze and Guattari's thinking. In *Animate Form*, Lynn makes reference to Deleuze's use of the terms "abstract machine" and 'diagram' as 'assignifying concepts' that are a key to the problem of translation from the virtual to the concrete.²³ Deleuze's definition of the Foucauldian diagram as "the presentation of the relations between forces unique to a particular formation"²⁴ is extended into "the distribution of the power to affect and the power to be affected."²⁵ In other words: the diagram is an assemblage of relations wherein the power to affect and be affected is distributed. As Eisenman's observations suggest, the key diagram being grappled with is not any one drawing in itself, but is rather the assemblage of affective movements that is embodied in drawings without simply being that drawing itself. There is a recognition of the abstract operations of affect, or how abstract notations, such as diagrams, become part of a qualitative assemblage guided through affect attunements. How that embodied or felt abstraction moves between states and media, between drawings and buildings, becomes a crucial problem.

For the sake of clarity, I will refer to this kind of diagram as an 'affective diagram',²⁶ to distinguish between diagrams as drawn or visually rendered objects and the texture of relations that they embody. The latter operates through the former, but also through all manner of things, events and actions. This kind of diagram intrinsically moves across and through things, dynamically reforming as it meets with different media. In other words, it is a model of affective movement, of how qualities move from one place to another or exist simultaneously in different places. Each instance of an affective diagram (wherever it is embodied in things without simply being that thing itself), is not the same as any other instance, but they have enough sympathy with one another to be, as they say, 'on the same wavelength.' They are alternative instances of similar configurations of relations. The *affective diagram* is perhaps akin to the "clear, physical



6.19 Image from Francis Bacon's studio: page of photographs by Eadweard Muybridge, from *Human and Animal Locomotion* (1887).



Confurius (1999).

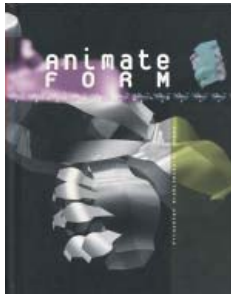
conception" that Holland refers to in his discussion of the missing "carrier model" of creative process, exemplified through Maxwell's translation from gears to fields.²⁷

In 2000, an issue of *Daidalos*, titled 'Diagrammania' was published, positioning itself as yet another publication on the theme of the diagram. This issue included an essay by myself, 'The Texture of Diagrams'²⁸ in which I critiqued the generative diagramming practices of Greg Lynn by juxtaposing it with Deleuze's take on the diagramming of the painter, Francis Bacon. This paper explored the very sensitive, unstable passage between drawings and buildings, where an affective diagram becomes crucial to a shaping of that passage of transformation between them. The following scene is a reworking and development on that essay.²⁹

27. Holland (1999), p. 218.

28. Ednie-Brown, Pia (2000a).

29. There are aspects of this paper that have been revised here. Most significantly, I reviewed my earlier (albeit subdued) insistence that his animated diagrams were smooth and fluid in quality and thereby at odds with the more ungainly qualities of the Church as a built form. What I failed to see was that his diagrams were actually quite ungainly and grotesque in quality and thereby, forming a fairly good affective match. At the time, the 'newness' of the technology made them appear more 'gleaming' and magical than that they seem now. The main premise of the paper, however, still stands: that in drawing so emphatically on the structure of animation when 'stopped dead in its tracks' in order to produce a sense of movement, he missed the finer, more 'particular' textural properties of the animations – or of animate movement.



Lynn (1999).

4. Translation and the Movements of Skin

Animate Form was published in the same year that Lynn's first building, the Korean Presbyterian Church in Queens, New York, was under construction. The book includes nothing of the church project, as if speaking alongside an unspoken companion and awaiting a discussion about to begin. A series of process animations were made available on his web site in late 1999. Overall, the project seemed to utilise a series of techniques that were developed and tested across the projects published in *Animate Form*: there were blob based massing study animations, similar to 'Artists Space' installation and the 'Henie Onstad Kunstsenter' installations, some wiggling entry tubes, similar to the 'Yokohama Port Terminal' project and some expanding rows of blobs and twisting boxes, similar to those in 'House Prototype in Long Island'. How these processes were set up to operate or what force parameters were involved were not discussed in any detail, if at all. The very vague status and action of the generative animations leaves any simple assessment of the relations between these diagrams and the building somewhat difficult. Or rather, they open up the question of what kind of assessment may be called for. What we can gather, is a general sense of the qualities and character, or affective nature, of these generative, animated diagrams. This seems an important issue to consider because in the terms set out by Lynn, animate properties of form are captured and embodied at an asignifying, abstract level through these diagrams. While Lynn doesn't discuss 'affect' per se, the Deleuzian philosophy from which he draws concepts of the 'asignifying' and the 'abstract machine' are imbricated in the role of affect. If these affective dimensions can form the basis of a fair assessment regarding the relationship between the diagrams and the building, the outcome offers some helpful insights into some issues at stake.

The church landed a little like the albatross; a bit ungainly and with a mildly comic lack of smoothness. In no way do I want to suggest here that it was 'ugly' or that if it was, that this would be a problem; its relative beauty or ugliness is not my concern. The issue here relates back to the animate abstraction that is crucial to Lynn's project and the degree to which the built form might embody the qualities of movement enacted in the animations. As I will discuss, at one level the building does this extraordinarily well, perhaps too well, but on another level it falls over. The flight and the fall are as intertwined as the albatross landing. Through the fall something indicative of diagrammatic action fell open and comes clearly into view. This 'something' is suggested here by Francis Bacon:



6.20



6.21

6.20 Presbyterian Church in Queens, New York (1995-1999), Greg Lynn, while under construction (1999). **6.21** Sanctuary interior under construction (1999), Presbyterian Church in Queens, New York (1995-1999), Greg Lynn.

“Valery puts it very clearly: What we want nowadays is the sensation without the boredom of its conveyance. That’s very precise isn’t it? Apart from that, we can watch our own decay in the interval that separates life from death.” ³⁰

30. Farr (1999) p. 41.

Between the animation and the building: between life and death? Lynn’s building seems indeed to be a suspended decay. A survey of the range of his designs reveals a tendency that is hard to overlook. As the generative impulses slow down, stop and reach across the shifts into a coagulated stand still of the final form, there is a breaking up of the of continuous surfaces into serial, variational facets. The ‘facetting’, perhaps more than anything, is tied to the pragmatics of building. Continuous curves become sectioned into strips, each of which twists and bends in acting out its own particular moment of the trajectory, or of the arrested flow of movement.

In the built church project this becomes most manifestly evident in the interior of the main sanctuary space with its staggered skins that extend out and peel away along the exterior stair at the back of the building. Attention to the production of a sense of movement has been poured into its form. Sliced into saw-tooth like strips right across it’s body and through its interior, each slice enacts a variation on its serial partners, gathering up a sense of active modulation rippling or splaying across this ridged variation. These strips are used to successfully generate sequential movement. In terms of the shaping of the thing and the way that these shapes have been used, there is a strong effort to imbue an animate quality into the building through a sense of movement. But there is something more going on here. In the final statements of Lynn’s *Animate Form* essay he writes:

“In order to bring these technologies into a discipline that is defined as the site of translation from the virtual to the concrete, it is necessary that we first interrogate their abstract structure. Without a detailed understanding of their performance as diagrams and organisational techniques it is impossible to begin a discussion of their translation into architectural form. ”³¹

If a detailed understanding of the abstract structure of these technologies is crucial in moving from “the virtual to the concrete”, what does he mean by ‘abstract structure’? An animate quality, or particular qualities of movement, might be one kind of abstraction to be translated, but is this ‘structural’? Or, is he referring to the technical structure of the animation itself – or how animations (in general) work to produce a sense of movement? Perhaps both.



6.22 Presbyterian Church in Queens, New York (1995-1999), Greg Lynn. 6.23 Sanctuary space of Presbyterian Church in Queens, New York (1995-1999), Greg Lynn.

31. Lynn (1999), pp. 40-41.

The clipped, staccato strips or staggered slices become a very significant clue. At 24 frames per second or so, speed glues the differentiating fragments of an animation into a dynamic line of continuous transformation. Leaping out of his contorting animations, Lynn transforms the moving image via a brutal slowing down of the rhythmic behaviour of the mutations that cross the beat of the frames of animation. As these rhythmic pulsations reach over to meet the speed of the building, the gaps open up, come into view and act to entropically decay the continuity of the dynamic line, like an aphorism spoken in a stutter. The smooth body of the animation is opened up such that it becomes a Bakhtinian grotesque body in that “it retains the parts in which one link joins the other, in which the life of one body is born from the death of the older, preceding one.”³² As the animation dies, it gives birth to a differentiated repetition that bares the gaps between the parts of the former action (the ‘gutters’ between frames) and bares the teeth of a cruelly indifferent time line. It reveals, in a sense, the mechanism of the enigma, the sleight of hand behind the representation. The continuous movement of the animation is as much of a cover up as de l’Orme’s continuity of projective translation. Lynn’s variational, sequentially poised strips remodel the technical structure of animation; chewing it up and regurgitating it into built form. The manner with which qualities of lightness and fluidity in the animations are left behind as the building beholds us, is tied up in the way that it makes explicit the mechanisms of the animation. It becomes a kind of pornography of the moving image: an explicit rendering visible of its holes and dark, secret orifices. This, it seems to me, points to an ‘affective diagram’ of Lynn’s church: a diagram that grotesquely stutters.³³ The striving to suggest past movement in now still form brings about, ironically, a diagramming of Bergson’s ‘false time’.³⁴

There are ways in which this notion of Lynn’s affective diagram operates similarly to the way in which Deleuze writes of Francis Bacon’s diagram:

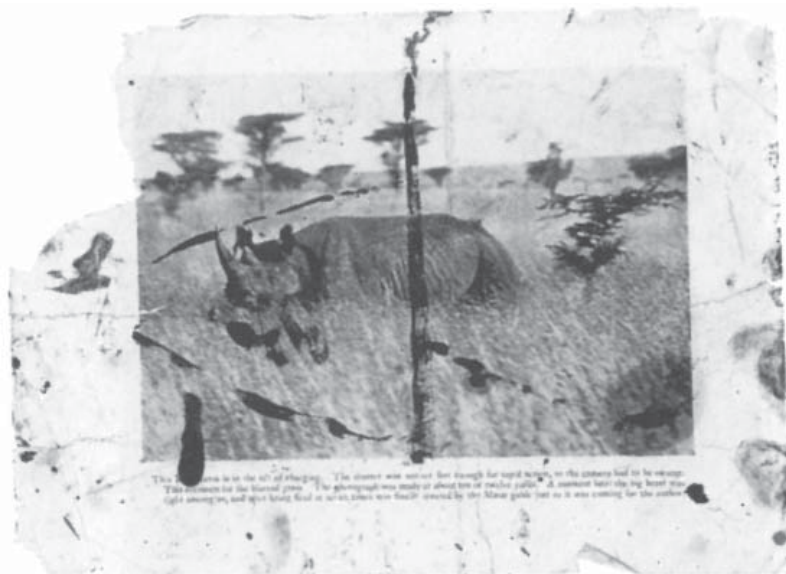
“This is what Bacon calls a *Diagram*; it is as if, all of a sudden, we introduced a Sahara, a Sahara region in the head; it is as if we stretched over it a rhinoceros skin seen through a microscope; it is as if we tore apart two parts of the head by means of an ocean; it is as if we changed the unit of measurement and replaced figurative units with micrometric or even cosmic units. A Sahara, a rhinoceros skin, this is the diagram suddenly stretched out. It is like a *catastrophe* happening suddenly to the canvas, inside figurative or probabilistic data.”³⁵

32. Bakhtin (1984), p. 318.

33. This stuttering is close to the sense through which Gilles Deleuze discusses the stutter in his well known paper, ‘He Stuttered’. The following passage from this text outlines the ‘pressures’ through which I see Lynn’s stutter similarly operating: “It is when the language system overstrains itself that it begins to stutter, to murmur, or to mumble; then the entire language reaches the limit that sketches the outside and confronts silence. When the language system is so much strained, language suffers a pressure that delivers it to silence. Style - the foreign language system inside language—is made by these two operations; or shall we rather speak, with Proust, of a nonstyle, that is, of ‘elements of a style to come which do not yet exist’? Style is the parsimony of language. Face to face, or face to back, to cause language to stutter, and at the same time to bring language to its limit, to its outside, and to its silence—all this will be like the boom and the bust.” [Deleuze (1994) p. 28.]

34. With regards to this notion of false time, Bergson writes: “we shall see that time, conceived under the form of an unbounded and homogenous medium, is nothing but the ghost of space haunting the reflexive consciousness.” [Bergson (1888), p. 99.]

35. Deleuze (1993) p. 193-194.



6.24 Image from Francis Bacon's studio

The microscope in Lynn's case becomes a magnification or slowing down of the filmic construction of movement. The rhinoceros skin becomes the filmic time line microscopically bearing its creases and furrows as deep oceans that tear the motion apart into discrete packages of stillness. The unit of measurement is shifted from units of (false) time to units of (Cartesian) space. All this occurs within the vast distance entailed in the Sahara state of (computer-aided) design.

I visited the church in 1999, when it was nearing the end of its construction. At this time, these skins where having their exterior panelling attached. These skins are a series of large metal frame structures that are clad with vertically lined timber on the inside and a silver metal panelling on the outside. At the time of my visit, the thin, metal panelling was being fixed to plywood under-cladding. The juxtaposition of the silver cladding and the plywood – as two very different surface textures – propelled me into a double take. My attention to this detail hinged off a question that remained hanging after a visit by Greg Lynn to RMIT in 1997. In the context of a small gathering of staff and postgraduates, he explained his technique and associated ways of thinking both clearly and enigmatically. The digital model, which literally is a form described by a wafer thin skin of data, was something he referred to – as he does in *Animate Form* – as a 'performance envelope' that registered the interaction of forces in which its mutations are embedded. It struck me, however, that the surfaces were only registering forces at a particular scale, or only in terms of the general form of the object. I wanted to see it occur in the surface itself: traces of the fine grains of interaction registered as texture. Clearly, this involved a different scale of attention, requiring both the digital skin and the forces that manipulated it to acquire a finer grain of registration.



6.25 Francis Bacon, One of 'Three Studies of Lucien Freud' (1969).



6.26 Presbyterian Church in Queens, New York (1995-1999), Greg Lynn. Under Construction (1999).



6.28



6.29



6.30

6.28 Diego Velázquez, Portrait of Pope Innocent X. 6.29 Close-up of nurse from Sergei Eisenstein's film, The Battleship Potemkin (1925). 6.30 'Study for the Head of a Screaming Pope' (1952), Francis Bacon.



6.27 Reproductions lying on Bacon's studio floor, assembled and photographed by Sam Hunter 1950.

It was around the time of Lynn's visit in '97 that I had been making and collecting the latex skins discussed earlier. This research meant that I was especially attuned to an attention toward surface texture. With this attention alive in the background, my immediate response to the plywood-metal cladding juxtaposition was a feeling of regret that the swirling and knotted variation of the plywood was soon to be hidden from view. The shiny panels seem too an obvious choice: they *resemble* the shiny surface of the digital image but they don't *enact* the more contortionist, modulatory movement of the animations. The plywood, almost accidentally or incidentally, bought these surface qualities to the project in a way that no other surface of the building does. All too briefly. They were soon covered over, hidden away under something that, it would seem, was an attempt to *look like* a digital image. Rather than enact the desired movement, they represented the still image. That which was *figured and rendered* by the software (shiny, animated form) came to stand in the way of that which the animation software more *qualitatively enacted* (affective movements).

One of the interesting aspects of Bacon's process is the manner with which he worked from existing images. Photographs and other paintings very often took on a directly generative role. His studio was littered with various images that he would use as an impulse in his paintings. He was particularly obsessed with Muybridge's photographs from *The Human Figure in Motion* and Velázquez's *Portrait of Pope Innocent X* which became the seed of a series of Pope paintings. "Images breed images in me" he is quoted as saying, whereby, "I'm a grinding machine. I've looked at everything and everything I've seen has gone in and been ground up very fine."³⁶ Given the manner with which Bacon speaks very pointedly about the significance of sensation, this 'grinding' would seem to be a kind of concentrated refinement of affects induced by images into increasingly granular, particular textures of sensation. These images never acted as something to be reproduced or represented, but digested and regurgitated, spewed out into the contortions, twists and pulses of the entropic and generative action of sensation: "I have deliberately tried to twist myself,

36. Francis Bacon, quoted in 'The Essence of Artifice', Micheal Peplatt in Farr (1999), p. 32.



6.31 Three Studies of Muriel Belcher, 1966.



6.32 Three Studies for a Portrait of Peter Beard, 1975.

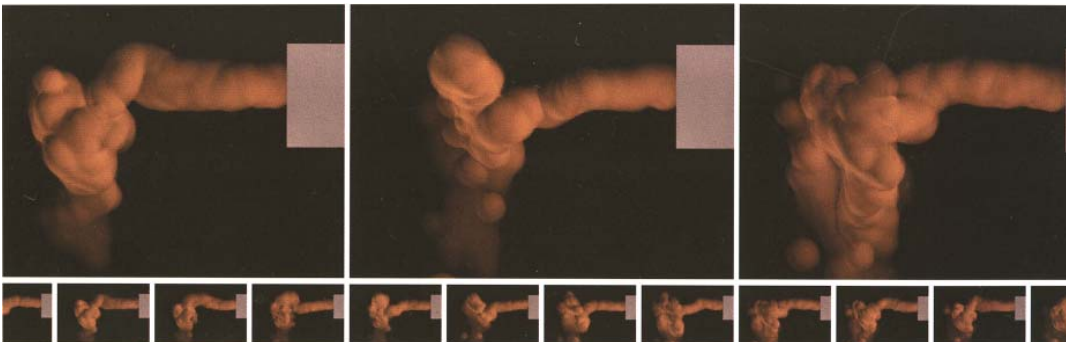
but I have not gone far enough ... in a painting that's even worth looking at the image must be twisted if it is to make a renewed assault on the nervous system."³⁷ Bacon's 'diagram' acts through the rhythm of transformative impulses that can be likened to Stern's notion of affect attunement, where the grinding up very fine becomes an intricate recasting of activation contours, done with an intricate complexity of interweaving.

37. Francis Bacon, *Ibid*, p. 41.

Bacon's 'catastrophes' work themselves right through the paint and across the figure, bringing the movements of sensation into a state of figural animation. He acts to render simultaneous the variable speeds and dimensions of duration that give sensation rhythm and consistency, expressing it in such a way that it is itself transformed. This simultaneity of variable speeds works very much in terms of interweaved modes of composition. As Deleuze writes of Bacon: "Each painting is a moving sequence or series (and not only one term within a series). Each sensation is at diverse levels, of different orders or in several domains."³⁸ It could be said that Bacon ploughs the variable frames into the same plane, weaving them together into a thick fabric of violent assault, while Lynn pulled them apart, enacting a different sort of brutality.

38. *Ibid*, p. 189.

Lynn's 'brutality', however, didn't manage to carve out as much depth; he hadn't ground up his data finely enough. In a juxtaposition of the generative images and the paintings of Bacon, the transformation is



6.33 Greg Lynn, Port Authority Gateway project, site forces mapped with particles.

quite radical. He smears the fine grounds through the figure such that he excites sensation, as Deleuze writes, on a number of levels. For Lynn, the transformation occurred through the mutation of initial forms through force parameter data of the animation software. These generative constructions, having come to a stand-still, then stutter and stumble, falling open into the differential repetition of form. All of this can be seen to be acting through a consistent diagramming in both animation and building: an attempt to generate a sense of motion across frames or formal strips. In coming to a stand still, the final form is folded back into the abstract structure of animations where the frames are now brutally cleaved apart as the facets of form. Once the form is generated, it calls upon the structure of an animation, the organising principle that becomes clear when you look at the strip of film rather than the film played through a projection device. In other words, the form draws upon the structure or composition of an animation *stopped dead in its tracks*.

The dynamic tension embodied here, in a 'decay' between life and death, between the continuous sense of movement of an animation (and the animate) and its pulling apart into frames, to render the 'gutters' visible, and can be seen to operate productively. A grotesque exposure of the dark, secret orifices of the animation becomes all the more resonant because the diagrams tend, perhaps, toward qualitative grotesqueness in any case. The misshapen contortions of these digital diagrams have a strong resonance with all the deformed and monstrous bodies discussed in his collection of essays, *Folds, Bodies and Blobs*.³⁹ As I suggested earlier, the church project points to an 'affective diagram' or an abstract structure of grotesque stuttering. While I have suggested here that he managed to embody this in a brutal twisting of an underlying abstract structure into a cleaving apart of a more continuous form of movement, it would seem that this act also suppressed the flowering of these forces into other, more ornamental scales of action.

39. Lynn (1998).

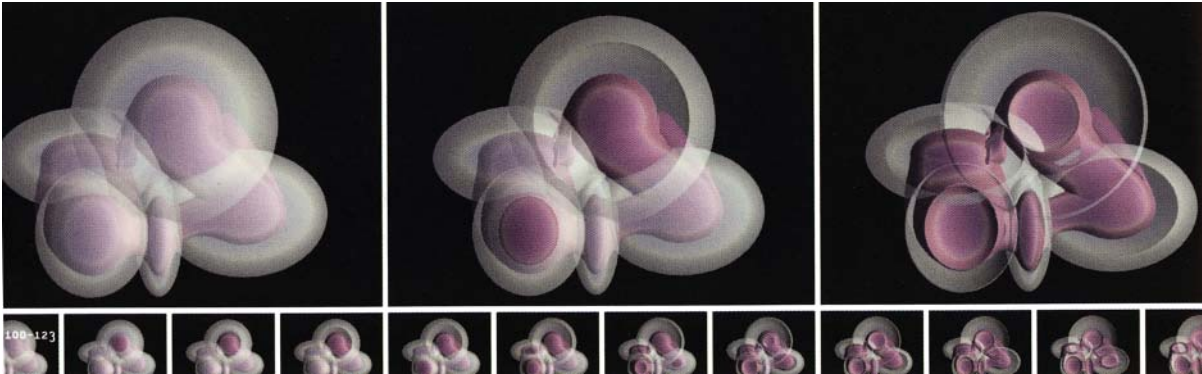
5. Affective Diagrams

The affective diagram is, perhaps frustratingly, not something that can simply be instrumentalised or described through diagrams. But diagrams of the drawn variety can be especially useful because they can so clearly embody crucial and particular relations. Just as particular diagrams can be more or less adept at articulating qualities of relation, they can also be used with more-or-less attention to this dimension of them. A very common tendency in architectural design is to take a diagram as a plan and to extrude it upwards into a three dimensional form. When a plan figure, or diagram, is qualitatively strong such a move often involves leaving behind and losing the power of the diagrammatic qualities. It's not that extrusion is, in itself, to blame, because this might be an operation and a technique that would very productively work with or intensify a particular quality of movement. But what so often goes wrong is that an extrusion from a diagram-plan occurs because the affective quality it suggests, which might be especially charismatic, is not recognised or felt with the requisite awareness. Or, a qualitative sense or aesthetic impulse in the project, often quite charismatically captured in the quality of a drawing, is overridden in the act of extrusion from a plan. In the desire to transduce a compelling movement that might have emerged amidst the design process, into a built form, the extrusion then becomes an act of unfeeling desperation: a move lacking sensitive affection. A deep analysis of LAB's Federation Square building in Melbourne (Fig 6.34) could be instructive here, because it confronts these very dangers through the extrusion of plan figures seen to embody the desired qualities. Various inflections and surface articulations seem to resuscitate losses from the initial gesture of extrusion.

The story of de l'Orme demonstrated how an act of parallel projection, which is a kind of remapping via an invisible extrusion, significantly altered the affectivity of a particular geometrical pattern as it moved from one condition to another. It was only because he had a grasp of the consistency of movement he was trying to create, that he tweaked it. In architectural examples of greater complexity than a relation between a floor pattern and a dome above, it is not necessary or even possible that this qualitative movement stays the same. Even the affect of de l'Orme's dome and floor are not exactly the same, they are just very similarly cast. This is not a side effect, it is a rule: transformation and transduction are unavoidable. No thing or place remains the same as it moves in space-time. The problem is how to move with sympathy or with moves that transduce affective



6.34 LAB Architects, Federation Square, Melbourne, Australia.



6.35 Greg Lynn, Artists Space Installation (1995).

diagrams through multiple scales of action. The idea of translation is a tool of efficiency, an unattainable goal, like the wall toward which Zeno's arrow flies. Transduction may be less stable (requiring metastability) but it accepts the inescapable actuality of change.

This passage from Henri Bergson's *Creative Evolution*, in his chapter 'Form and Becoming' offers a deeply relevant, cautionary tale:

"In order to advance with the moving reality, you must replace yourself within it. Install yourself within change, and you will grasp at once both change itself and the successive states in which *it might* at any instant be immobilised. But with these successive states, perceived from without as real and no longer as potential immobilities, you will never reconstitute movement. Call them *qualities, forms, positions, or intentions*, as the case may be, multiply the number of them as you will, let the interval between two consecutive states be infinitely small: before the intervening moment you will always experience the disappointment of the child who tries by clapping his hands together to crush the smoke. The movement slips through the interval, because every attempt to reconstitute change out of states implies the absurd proposition, that movement is made of immobilities."⁴¹

42. Bergson (1998), p. 308.

Here Bergson is highlighting the importance of one's stance in relation to moving reality, as juxtaposed with a more filmic construction of movement. This act of placing yourself *within it* becomes the crucial comportment. In order to 'capture' or recast the movement of the swirling curlicues of smoke, you have to *become* the movement, feeling it out through your own embodied perceptions, rather than simply attempt to catch the thing in motion from the outside.

The disappointment of those hands clapping vainly could be heard in the church through the echoes of a missing dimension of its embodiment, in the ornamental scales of action. If, as Wölfflin claimed, ornament is where “the birthplace of a new style has to be sought”⁴² then Lynn did not quite manage, in this project, to feed his grotesquely stuttering diagram into an all-over, over-all coordination of affects across scales. The Church project embodied a striking lack of attention to the qualities of its surfaces, which are exceptionally homogenous in terms of finish and texture. In the interior spaces, both the variously postured saw-toothed strips of the main sanctuary space and its foyer are white plasterboard. It is the white cube, sliced up into ribbons that are twisted about. The exterior skins, as I have discussed, demonstrate how working with the representational can obstruct a richer or deeper becoming. A key to this blockage lies in one’s stance in relation to moving reality, such that the affective movements can be tapped into and recast into affect attunements in the shift from drawings to buildings.

42. Wölfflin (1994), p. 185.

6. Posture

"The body, fresh in the throes of expression, incarnates not an already formed system but a modification – a change. Expression is an event...The task of a theory of expression is how to account for stability of form, given event."⁴³

43. Massumi (2002b), p. xvii.

In the above quote, Massumi enacts a nice inversion of the general problem that plagued both Lynn and Wölfflin. While both investigated, in different ways, the problem of how stable form might be eventful (or animate), Massumi questions how we can account for the stability of form, given the eventful nature of the world. For process philosophy, there is no such thing as absolute stability. Metastability – a state of relative equilibrium harbouring potential change – is as surefooted as it gets. So, how do some things ever get to seem so still – or do they? Massumi's statement perhaps outlines more of a philosopher's problem than an architect's one, but it leads back to the question of how one might be poised to perceive the world. As I will now go on to further discuss through the writings of both Wölfflin and Lynn, this question becomes one of posture: the practiced and cultivated poise, positioning and attitude one adopts in any given event. Posture is a composition of behaviour.

Wölfflin's thesis is concerned with how architecture can be expressive through a focus on the relations between formal objects and embodied subjects, or buildings and people experiencing buildings. He is concerned with how the human subject receives an impression of, or feels, the expression of form. It is through his comments on ornament that he begins to suggest specific issues regarding how a form *comes into being* as of significance to the general question. The important capacity for non-standardised modes of production to inflect and be readily affected by the situation is also something he implicitly asks of his reader. His concerns for the embodiment of expression is an aspect of the *way* in which his writing asks the reader to consider this very subject. Take this example, where he relates proportion to the rate of breathing:

"Of great interest is the relation of proportions to *the rate of breathing*. It cannot be doubted that very narrow proportions produce the impression of an almost breathless and hurried upward striving. Naturally, we immediately associate them with the idea of tightness, which makes it impossible for us to continue to breathe deeply with the necessary lateral expansion. Thus Gothic proportions are oppressive: there is sufficient space for us to breathe, but in living in and with these forms we sense them to be squeezing together, pressing upward, and consuming themselves in their own tension."⁴⁴

44. Wölfflin (1994), p. 169.

Here Wölfflin approaches his reader with a persuasive assumption of shared experience, as if to say: 'it cannot be doubted that we both experience architecture in this way' and 'as I feel this, so do you'. And when Wölfflin finally gets to his section on ornament, his breath seems to quicken as he opens the first paragraph with the line: "Only with difficulty have I been able to delay the discussion of ornament."⁴⁵ His own tendencies, perceptions and feelings are openly conveyed, directed at ushering the reader into related impressions of embodied feeling and expression. He writes in a manner that embodies the way in which he believes architecture performs. His writing blossoms with an excess of affect, asking his readers to be fingered by the tendrils exuded by the force of his percepts. One of his readers was Walter Benjamin. With thoughts of enlisting his studies to the supervision of Wölfflin, Benjamin attended his university lectures in Munich in 1915 at the age of 23.⁴⁶ Benjamin, it turns out, did not enjoy Wölfflin's affective fingering, leaving those lectures in disgust. Soon after he writes:

45. Ibid, p. 178.

46. see Macarthur (2001-2).

"Now it is clear to me that what we have here is the most disasterous activity I have ever encountered in a German University. A by no means overwhelmingly gifted man, who, by nature, has no more of a feel for art than anyone else, but attempts to get around this by using all the energy and resources of his personality...He does not see the artwork, but he feels obliged to see it, demands that one see it, considers his history a moral act; he becomes pedantic, ludicrously catatonic, and thereby destroys any natural talents that his audience may have."⁴⁷

47. Quoted in a paper paper by John Macarthur, in Levin (1988), p. 79. This quote is from a letter to Fritz Radt (1915).

Architectural historian, John Macarthur, has made an interesting and illuminating argument regarding Benjamin's strong reaction to those lectures given by Wölfflin.⁴⁸ Macarthur suggests that Benjamin's theory of aura can be understood as a reaction to, and correction of Wölfflin. Wölfflin affords architecture's 'force of form' such authority that the human body is impressed with its affective power, breathing to its rhythms, following its footsteps, entering into its stature. But as Macarthur points out, this is not altogether so different from Benjamin's tactile appropriation that could well be elaborated with the respiratory and other movement affects that Wölfflin describes. Benjamin's dislike of Wölfflin's manner, it would seem, lies a conjuring of images that smother, rather than more benignly encouraging or enabling us to accept an intimate relationship with them. Perhaps the

48. Macarthur (2001-2), p. 148.

violence of Benjamin's reaction to Wolfflin lay in the later actually getting quite close – promisingly close to articulating the operations of something like tactile appropriation – but then ruining it by a conjuring of images too forcefully, coercively or auratically conveyed.

49. Benjamin (1968), p. 223.

50. Ibid. p. 220.

Distance is a key property of Benjamin's definition of the aura: "as the unique phenomenon of a distance, however close it may be."⁴⁹ For Benjamin the aura of mechanically reproduced work of art has withered. That which disappears is uniqueness, the status of the original and the cult value of art. It has lost "its presence in time and space, its unique existence at the place where it happens to be."⁵⁰ As the art work loses these auratic dimensions of its being, it loses an authority whose status is grounded in its wholeness: of place, time and perceived ritualistic, cult or cultural value. Auratic events deliver an aesthetic unity that gathers a forcefulness through these colluding factors. The affect of aura in the experience of those who meet its uniqueness face to face is similar to meeting with a figure of authority who returns one's gaze in terms of their power. You can't attain the kind of closeness that pertains to the intimate meeting of eyes in a more even balance of power. In the negotiation of exchange or interaction, an auratic affectivity dominates. A particular kind of distance always quietly prevails.

51. Ibid. p. 218.

Benjamin does not regard the withering of aura as a tragic loss even if, as discussed in Act 1, its absence can provoke distraction and alienation. Through Fascism and its aestheticisation of politics, he highlights the political dangers of the aura, the power of which can be directed toward mass political coercion. 'Tactile appropriation' becomes an operation of affect that takes over as the aura withers, becoming "useful for the formulation of revolutionary demands in the politics of art."⁵¹

Benjamin illustrates the difference between the aura and tactile appropriation through a juxtaposition of the painter and the cameraman, the former exemplifying the older forms of art and the later the art of mechanical reproduction. The conjuring and mysterious act of the magician healer, who lays his hands on the body to cure it, is quite a different act to that of the surgeon, who cuts into the body. The magician comes affectively close, intimately affecting bodies while maintaining a distance through his auratic authority. The surgeon gets so close that his hands move literally inside bodies, but at this moment of intense physical intimacy, never meets the patient person to person; the relationship is one of operator to body.

If Wölfflin was a magician, Lynn could be seen as the plastic surgeon, cutting the body into strips like the cameraman working the structure of his perception into an aesthetic makeover of the body. The animations themselves, however, held considerable auratic power at the time of their discursive flowering. There is a tension or disjunction set up between magic and surgery. This is a product, as I suggested earlier, of a lack of attention – that is in no way unique to Lynn – to the role of one's own embodied stance and affectivity in the act of doing. Additional evidence of this can be found the manner of his early writing.

Lynn's approach to the reader in *Animate Form* is noticeably different to that of Wölfflin. The question of how forms are perceived or experienced is left out of Lynn's *Animate Form* text except where he explicitly rejects the relationship between object and viewer as the key to animate form. Integral to Lynn's claims is an attempt to counter the tendency for force and motion to be treated as distinct from form and matter. He complains that in architectural discourse the split between form and force is only ever reunited in the meeting of object and viewer, where static form only becomes dynamic through our movements and perceptions:

"a superimposition or sequence of static forms is put into relation such that the viewer resolves multiple states through the instantiation of optical motion. Although form is thought in series and motion in these examples, movement is something added back to the object by the viewer. This involves a dialectic definition of motion that is inert while our experience of it involves movement. Statics become the condition of matter without force and dynamics becomes the condition of matter acted on by force...The modelling of architecture in a conceptual field populated by forces and motion contrasts with these previous paradigms and technologies of formal stasis."⁵²

52. Lynn (1999), p. 13.

What makes him different, he implies, is the assertion that architecture does not move and pulsate only because we perceive it as such but because motion and force can be embedded in the form itself through the process of formation. The kind of movement that Lynn *implies* here is similar to Wölfflin's, but by remaining in a *representational field* rather than being engaged with more intimately as lived force and motion (or, better, movement) it remains, in practice or in actuality, an architecture of motion rather than affective movement. As we have seen, this gets problematic when it eventually has to halt its motion and cross the translation into built form.

In moving through the issues and examples he draws into his *Animate Form* essay, Lynn adopts a distant, objective stance; the posture of an eye surveying a set of object-ive models. There is not too much sense of affection prevailing in his writing. There is no intimacy, no immediacy, no sense of a perceiving, feeling or even a thinking author. He, manifestly unlike Wölfflin, leaves little direct indication of his perceptions. It is all statement and pronouncement. Wherever art, philosophy and architectural theory is discussed, it is only to the extent that it is scientifically inclined: time, motion and force remain features of abstract representations of space. They are always described as properties of models that lie 'over there', that we can picture as something discrete in itself. The life of these spaces are never lived; they are never discussed in terms of experience. Lynn claims to be departing from Cartesian models of space as a logic idealised in "an abstract space of fixed coordinates"⁵³ but only moves as far as representational models of dynamic space. As object-images, these spaces can be pictured with clarity, from the stance of standing back and over-seeing, without the necessary complication of throwing oneself into it; of living it.

53. Lynn (1999), p. 15.

But this over-seeing can become an oversight, where the affective dimensions of that over-seeing experience can be left in the dark such that we skip blindly over the significant inflections. Ironically, despite the manifest objectivity of the tone and stance, the very criteria of judgement becomes elusive: as Peter Eisenman kept asking, how does Lynn decide what moment of the animation is the one to run with, which framed posture does one pick out as the seed of the building to come? Where or when do you stop the movement and manifest still-standing form? This became known as the 'stopping problem.' The problem, really, is that the criteria of judgement are of an aesthetic nature and from a scientifically inclined, analytical stance this kind of criteria become harder to access. When the animate is reduced to being force + motion in a representational space held 'over there' (and separate from one's 'wholesome body') it becomes harder to get close enough to the affective movements. As Bergson put it:

"Install yourself within change, and you will grasp at once both change itself and the successive states in which *it might* at any instant be immobilised."⁵⁴

54. Bergson (1998), p. 308.

The kind of stance embodied by Lynn's text might benefit from a certain surgeon-like, dry clarity, but it skips blindly, unfeelingly over affection, such that the affective diagram ('change itself') becomes subsumed by the

structure of the successive states. On the other hand, perhaps a magician-like aura of sparkingly new technologies, helped diminish access to an intimacy of relation with the animated diagrams, or an entering into their affective movement.

Daniel Stern cites a relevant joke where two psychiatrists pass one another in the street and say 'hello' to one another, smile and wave, after which they both think 'I wonder what he meant by that?' The affective tone of the greeting cannot be contained by the word spoken, but lies in the relations between the way in which the word is spoken, its timing, intensity, intonational richness along with facial gestures, the timing and intensity of eyes meeting, gestural smoothness or faltering, general bodily poise etc. In holding many aspects of expression outside of the formal systems of communication means that it can be denied awareness. One is accountable for *what* one says much more than for *the way* in which one speaks, a consequence of which is that "what is deniable to others becomes more and more deniable to oneself."⁵⁵ The affective dimensions and sensual experience of relations – or that which constitute affective diagrams – tend to be repressed under the mantle of representations.

55. Stern (2000), p. 181.

In my brief attention to the discursive stances of Wölfflin and Lynn in their respective early writings, I am suggesting that the comportment, or stance and manner of an author, whatever kind of artefact they might be producing, has immeasurable implications on that which it becomes possible to openly account for, pay attention to or gain access to. It is embedded in their *sensibility*, their ability to sense within engagements. Walter Benjamin's insistence on the politics of art speaks loudly of the ethical nature of these implications. And at the level of design expertise, denied (or unattended to) affective dimensions lose the power to 'speak' or be registered within the designer's attention, while the overly forceful aura can block or diminish an intimacy of engagement with affective diagrams, so necessary in delicate moments of translation.

This, as I have argued, is what happened in Lynn's first building. But then, as I will now go on to argue, in his early work Lynn's diagram had not yet been through enough iterations for his style to have been more deeply developed.

ACT 7. Style and Sensibility

Act 7 synthesises the arguments from the previous three acts through the issue of how style is developed through affective diagrams and sensibility. This also involves a looping back to Part 1, tying this synthesis back to discussions of the art of emergence and the ethico-aesthetic know-how of emergence.

This Act re-opens the issue of style, as discussed earlier through Wölfflin, to clarify the relationship between style, expression and the process of formation, as discussed in Act 5, and affective diagrams, as discussed in Act 6. I offer a brief account of the development of style and sensibility through Lynn's later projects and writing. Through a turning back in history to some related instances I further argue how the sensibility we find being developed here is relevant beyond his work in particular, being implicit to the field of process architecture in general and its development upon a rich discursive history. I characterise this new style as one developing through a growing awareness of affectivity as the foundation of both design process and its products, where this awareness is part of an increasingly explicit attention to behaviours, dynamic interrelations and interactivity. I then raise an example given by Isabelle Stengers regarding the style of science of geneticist Barbara McClintock to look at a related way of working in a scientific context. The common ground between McClintock's style of scientific research and the valuable implications of process architecture is characterised by a particular ethics of behaviour or a research posture.



7.01

1. Styles of Life

"Let us on the contrary grasp ourselves afresh as we are, in a present which is thick, and further more, elastic... let us grasp afresh the external world as it really is, in the present, but in depth, with the immediate past crowding upon it and imprinting upon it its impetus... immediately in our galvanised perception what is taut becomes relaxed, what is dormant awakens, what is dead comes to life again."¹

1. Bergson (1992), pp. 128-9.

Style is often thought to be a superficial mask pertaining to how things 'look' or visually appear to us, as distinct from a more internal, authentic depth. Amidst this notion of style is a distrust of how things appear: a deep Cartesian suspicion that some kind of 'evil genius' might be presenting us with a deceptive image. Along a similar vein, style has become a word associated with the commodification involved in today's packaging of 'lifestyles.' But as Bruce Mau observed in his book, *Lifestyle*: "fundamentally style is a decision about how we will live. Style is not superficial. It is a philosophical project of the deepest order."² This understanding of 'style' touches upon how the subject has been discussed, via Wölfflin's early work, in terms of behavioural tendencies and sensibility. Sanford Kwinter summarised it neatly when he suggested that "style means nothing less than a *whole new way of doing things*."³ Brian Massumi's essay 'Too-Blue'⁴ offers a detailed account of style in related terms.

2. Mau (2000), p. 27.

3. Kwinter (2000), p. 35.

4. Massumi (2002a).

When style shifts from superficial appearances to ways of doing, it calls up an attention to posture, understood here as the practiced poise, stance and cultivated attitude one adopts. The *development* of style becomes an issue of building up and refining a performative or behavioural consistency through practice – something like the 'signature' that Murray highlights as the basis of compositional practices. As Foreign Office Architects recently admitted:

5. Hensel; Menges; Weinstock (2004), p. 36.

"we have lately realised that there were several features that appeared in various projects. This helped us to accelerate processes and improve on discoveries we had made, and we began to understand style as the improvement of techniques and operations through repetition in different projects."⁵

In previous Acts I have been arguing that style is indeed related to the techniques and operations that generate the 'force of form' but also to the forces of relation assembled through 'posture', which shapes the potential of generative techniques and operations. Developing one's style is an issue of building up and refining affective diagrams. This occurs through iteration: a process through which "the presentation of relations between forces" – or the diagram – are refined or 'improved'. Iteration enables a snowballing effect, where the variations across the series of works start to build up a strong sense of tendency and limits.

Style becomes contagious when such a behavioural refrain resonates with, for instance, the sentiment of a cultural milieu. Resonance both lingers and spreads outward, affecting and modulating things around it through the power of its amplified vibrations. Affect contagion relies on resonance: where a sympathetic vibration arises in the encounters between things, provoking an amplification of a force and form of feeling. This pertains to how a style emerges through a specific body of work, where resonances occur across projects and their iterations, amplifying and folding back such that a style feeds back into and develops itself. The resonating feedback loop similarly pertains to how a new style can emerge, develop, take hold, spread, modulate a milieu and be modulated in turn. In the manner of strong emergence, the emergent macro-level style folds back to affect its micro-level behavioural constituents.

When understood in these ways, the problems of translation faced through Lynn's early work can be seen to arise through a relatively undeveloped style in that his body of work had not gathered enough iterations for a powerful, all-over and over-all resonance to have arisen. Weak resonance is like weak emergence, it does not have a powerful and unavoidable downward causation. The more that style has been gathered through the iterations of practice, the more easily difficult gaps or leaps, such as translation (or transduction), can be bridged through the glue of developed affective diagrams.

In laying out the collection of Lynn's body of work since the Presbyterian Church, by now quite an extraordinary and prolific array of investigation, one can gather a sense of his developing style as an affective refrain through the variations and repetitions across each project. As Wölfflin put



7.02 Greg Lynn, Predator (1999-2000).

it: "To *explain* a style then can mean nothing more than to place it in its general historical context and to verify that it speaks in harmony with the other organs of its age."⁶ 'Speaking in harmony' pertains to how the affective movements of the numerous 'organs' operate in relation to one another, where a sense of style emerges through both the divergences and reinforcements within these relations. This is no less true for the style of an era, a particular practitioner or a specific project. This technique of gathering a non-linear sense of *affective movement* across instances was perhaps Lynn's missing move in the Presbyterian Church. Rather than extract one frame from the sequence of the animation and then discipline its performance to dance with the technical structure of animated motion, one could gather a sense of *the character of movement across the frames*. This sense would be related to patterned changes over time, or activation contours yoked into *forms of feeling* that qualitatively mould the character of a style. This character of (affective) movement, or style, can then operate as a compositional guide, even as it changes mood, reveals hidden dimensions, transforms and matures with age and in sympathy with its era, like a signature.

An attention to the more *'global', overall quality* of the work becomes easier when there is a bigger field of projects to assist in the gathering of a sense of movement – where the style or texture of a meta-diagram becomes easier to discern. Certainly, an assessment of the formal moves of the Church project start to change in hue and gather richness when considered in concert with subsequent projects.

The use of the formal mechanism of breaking modulating surfaces into variational strips or shreds, as discussed through the Church project, began in the early installation projects and remained emblematic in his work up until around 2000-2001. Both the *Embryological Houses* (1998-1999) and the *Predator* installation (1999-2000) utilised this formal mechanism to some degree, but in a finer, more filigree and less dominant way, and could be seen as the events through which this tendency began to be digested, absorbed and transformed.

6. Wölfflin, Heinrich (1984), p. 79.



7.03 Greg Lynn, Pretty Good Life.com, Stockholm, Sweden (1999-2000).

7. Lynn (2006), p. 133.

8. From 'Predator.pdf', a file downloaded from Greg Lynn's web site; www.glform.com (accessed 30th November, 2005).

9. Eisenman (1999), p. 208-9.

10. Macarthur (2001-2).

Lynn's research into surface texturing through CNC milling, such as in his showroom for PrettyGoodLife.com (1999-2000) began to mark out an attention to texture and ornament. Then, the *Predator* project added another dimension to this, where the aim was "to produce a relief surface modulated by painterly effects."⁷ Lynn writes of this collaborative installation as skins that "can be moved through, around and within presenting a variegated combination of spatial and pictorial sensibilities."⁸ The effort to integrate ornament/surface texture and form that came after the Church is quite marked. It is as if a texture of affect leapt out of the background of the Church and very quickly embossed Lynn's surfaces with a blossoming of forces.

The development of Lynn's style as a whole could be seen to have integrally involved a struggle to access the background texture of affect such that he can direct its animate abstraction (or affective movements). Eisenman had the foresight to observe that "the diagram has moved from the strategies of reading to the tactics of visceral experience"⁹ and Lynn has gradually developed this aspect of his work in a way that is at once a maturation of his practice and, I would argue, a development of the subtexts of the broader style of processual architecture.

Interestingly enough, thinking back to Wölfflin, ornament has played a very significant role in the development of Lynn's style. Ornament is an aspect of architectural form that is relatively freed from the range of constraints that larger forms must deal with and operates almost entirely in terms of aesthetic impulse. As Wölfflin argues, it is a blossoming of excess force that is sensitive to the 'pulse of the age.' In other words, it settles into place with a sensitivity to the atmosphere of the situation, or what we might call an atmospheric sensibility (sense-ability).

John Macarthur has drawn attention to the compatibility of Wölfflin's ideas of movement and its bodily relations to those of his contemporary, the philosopher Henri Bergson.¹⁰ For Bergson, movement is distinguishable from motion. While motion is related to actions in space, or the act of physically moving, movement is experienced as a whole and indivisible 'image' – or in the terms developed in this thesis, as an affective diagram. The Wölfflinian-Bergsonian kind of affective movement is, I argue, the very 'force' of the animate that Lynn has been implicitly refining, as not only something implied in the *Animate Form* essay but also as a consistency that gradually unfolds in his ongoing practice. I would suggest that this has, at the same time, involved a breaking down (or grinding up into finer 'particles'), of the auratic magic that surrounded his earlier animated diagrams. In those earlier days, the glow surrounding the use of new tech-



7.04 Back Cover of catalogue for: Greg Lynn (curator), Intricacy, Institute of Contemporary Arts Philadelphia, 2003.

nologies was a formidable force that smothered a more nuanced understanding of an emerging performative intricacy. Since then, Lynn's work has become less surrounded by a kind of hyper-commodification of the new, developing a more sophisticated and multiplicitous edge. His more recent exhibition, *Intricacy* (2003), emphatically articulates the development of this understanding.

Rather than support this argument through further and more detailed investigations of Lynn's later work, I will touch back on the earlier comparison of Lynn's and Wölfflin's respective writing postures by turning to Lynn's piece of science fiction, 'A New Style of Life,' in which his mode of expression radically shifted. The story was intended to be part of his book 'Embryological House',¹¹ which has not been published.

11. In Lynn (2000), it is stated that the story is "Excerpt from the chapter: 'A New Style of Life' from *Embryological House*, Princeton Architectural Press, forthcoming Fall 2001.

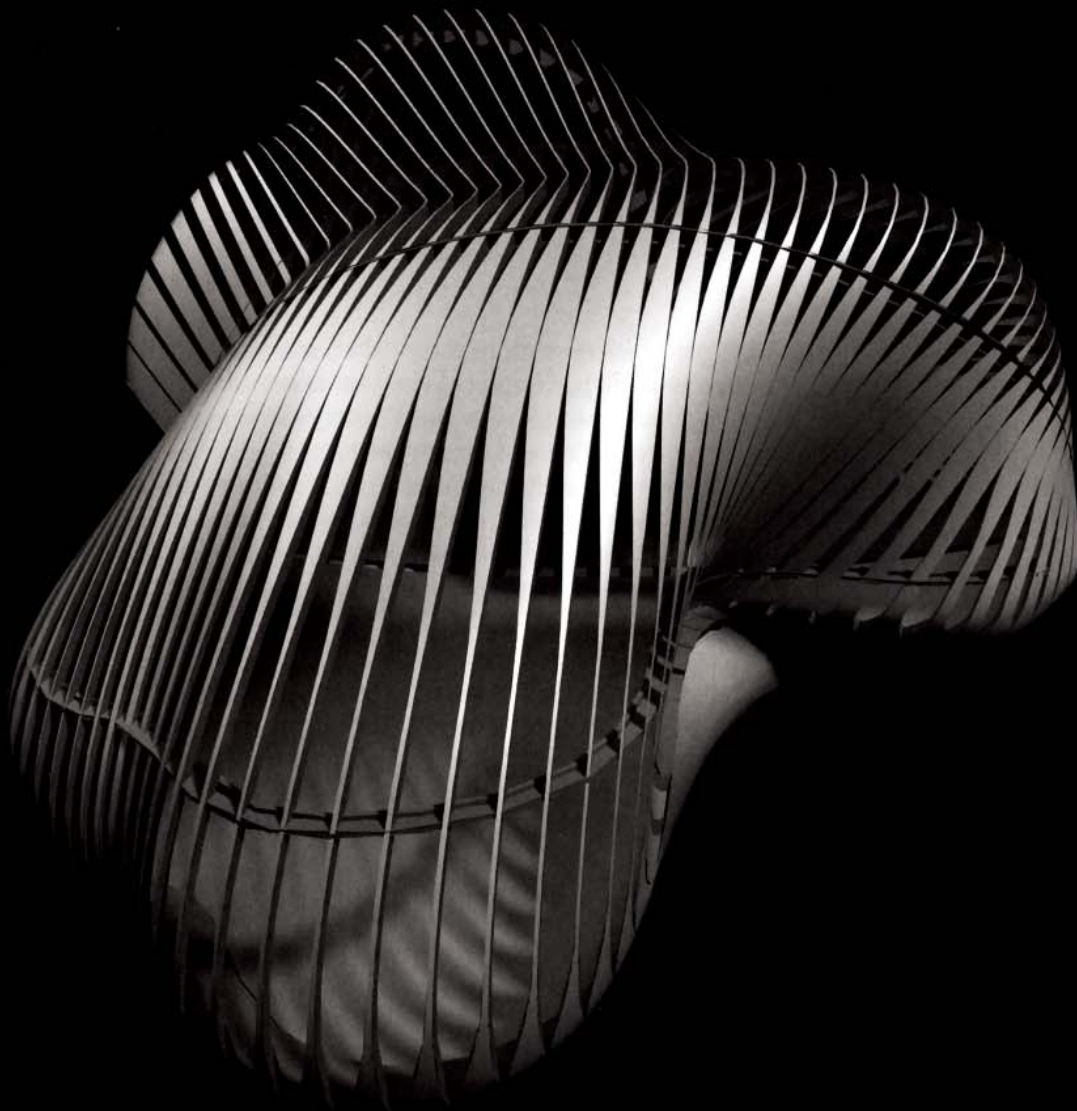
In ArchiNed News, March 7, 2002, it was reported that Lynn read out an excerpt of this story at a presentation at the Berlage Institute. The reporter writes:

"To escape from the promise that 'architectural theory' presupposes, Lynn has recently started using science fiction as a medium for expression, since it is a more narrative way of describing the desired atmosphere and spatial quality."¹²

12. Jeroen Mensink, http://www.classic.archined.nl/news/0203/greglynn_en.htm

13. Lavin (2000), p. 40.

This resonates with the sense we are entering "the post-critical era"¹³ marked out by the final issue of *Assemblage* in which the story was published as Lynn's one page contribution. 'A New Style of Life' is indeed remarkably different to his earlier writing style. This short story takes place in a house that is a living, or at least a semi-living entity: it breathes, sleeps and feels. Inside the guts of the house, dwells a man in a developed bio-technological world. Along with his dreams, rituals and sensations, we hear about his animate contact lenses and other bio-prosthetics, his farm-raised clothing (genetically engineered from the cells of a frog), his coffee beans processed through the digestive tracks of Lemur monkeys (a process he attempts to replicate through surreptitiously feeding them to his vegetarian girlfriend). While the 'Embryological Houses' are only drawn and modelled as a form viewed from the outside, never giving an indication of its inhabitability, Lynn steps inside the house through the story – into a new style of life – and into an internal state of affairs. While the point of view is still of 'a man' (over there) like his blobs in another space (over there) rather than, for instance, being written in first person, it nevertheless offers an account of his inner life and of the practices of living that might be imagined to occur within the scene of his formal architectural speculations.



7.05 Greg Lynn, Embryological House (1998-1999).

This 'new style of life' is characterised by an environment and domestic objects that are highly *responsive*. In the relations between human activities, built environments and items such as clothing, prosthetics and food, there is an amplified dynamism through the liveliness or biologically lived dimensions of all 'participants'. In relation to a more familiar domestic scene, there is a kind of redistribution of powers to affect and to be affected. The life of objects is amplified and highlighted – becoming, quite literally, animate forms. By exploring these relations from the perspective of a particular man's domestic style of life, Lynn is foregrounding these relations from an intimate, behavioural perspective, rather than from the more external, distant approach to the responsive, supple digital diagrams and forms through which his work began gathering power. While responsiveness was largely active only in terms of the content of academic critique in the earlier text, in 'A New Style of Life' it becomes aptly recast into the stance of the storyteller, shifting the focus to lived relations that literally flesh out the idea of responsive environments. Like the gradual refinement of the formal mechanism of variational strips, as discussed above, through this shift in his writing we can see the responsive diagram being digested, absorbed and transformed. This would appear to be a phase shift involving a significant recasting of an affective diagram. As a style is developed, so is its diagram.

2. Background Sensibilities

"...criticism must now understand sensibility as a form of intelligence rather than opposed to intellection...the building in ecstasy is a concept that takes on provocative significance and opens pleasurable new dimensions to the theoretical project."¹⁴

14. Lavin (2000), p. 40.

The emphasis on responsiveness in Lynn's work resonates with the 'surfaces of negotiation' and mutual affectivity discussed in Act 5 through *kokkugia* and *biothing*. Indicative of the nature of the sensibility being developed, all involve a sensitivity to complex, or intricate, negotiation. Negotiation always involves a dynamic play of power relations through which a balance or agreement can be struck. This resonates with Holland's search for a balance between poetry and physics, as well as Evans call for manners of working that lie between orderly neatness and unrestrained feeling. One could say, then, that this is a sensibility that pertains to the art of emergence or an ethico-aesthetic know-how.

In using Lynn as an exemplary figure I am suggesting that the sensibility we find being developed in Lynn's work is part of the production of a new style that is relevant beyond his work in particular, being implicit to the field of processual architecture in general. But this kind of sensibility and this stylistic flavour is not entirely 'new', it is a recasting of a long history of related tendencies. In order to appreciate the difference that might allow us to call it 'new', we need to explore some background history – or configurations from which it emerged.

In a short essay 'The Triumph of Software,' published in *New Society* in 1968, Reyner Banham chews over a growing sensibility related to software and responsive environments. This essay offers a laudatory review of the film *Barbarella*, which had been released that year, using it to exemplify this growing sensibility. He holds this in contrast to a hardware related sensibility, exemplified by Stanley Kubrick's film, *2001*, also released in 1968. He writes of *Barbarella's* "ambience of curved, pliable, continuous, breathing, adaptable surfaces" and juxtaposes it with "all that grey plastic and crackle-finish metal, and knobs and switches, all that ... yech ... *hardware!*" in *2001*. Banham's essay was printed with an image from *2001* of a semi-naked male lying somewhat impassively relaxed in a hard surfaced, hard edged environment juxtaposed with an image of *Barbarella* in tight, sheer garments and on all fours in her fur-lined space-ship, looking a little startled.

15. Banham (1968), p. 630.

16. Ibid, p. 629.



7.06 Text from cover of catalogue for Mood River exhibition (2002), organised by Jeffrey Kipnis and Annetta Massie and held at the Wexner Centre for the Arts.

17. Lavin (2002), p. 75.

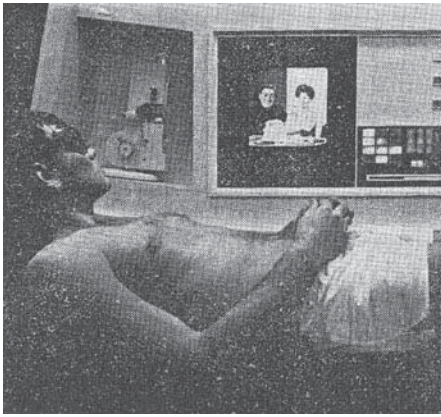
18. Lavin (2002), p. 76.

Banham paints a picture of a battle between the behind-the-times hardies and the finger-on-the-pulse softies. Banham, being a softie, celebrates that which he sees as the “whole vision” of the film as “one in which hardware is fallible, and software (animate or otherwise) usually wins.”¹⁵ Banham hails *Barbarella* as a cult movie whose responsive environments will “become what the film is remembered to have been about.”¹⁶ It is a “splendid coincidence”, he writes, that a company called ‘Responsive Environments Corporation’ went public on the New York stock exchange in the same week that the film premiered: “Whatever the company is about, *Barbarella* is about responsive environments, of one sort or another, and so has been the architectural underground for the last three years or so.” Banham exposes his admiration for fur as a superior and super-friendly material, linking its enigmatic nature to the inflatable, and thereby to Archigram’s inflatable prototype personal environment. He makes a connection, in other words between ‘natural’ materials such as fur and plastic membranes.

Interestingly enough, this essay has been re-addressed in recent architectural discourse by Greg Lynn’s partner, Sylvia Lavin. In an essay titled ‘Plasticity at Work,’ Lavin briefly critiques Banham’s essay on *Barbarella* in order to position the role of plasticity in relation to modernism. Her essay appears in the book *Mood River* produced in association with an exhibition of that name at the Wexner Centre, Ohio, staged in 2002. This book was published with a somewhat toxic smelling but luminously translucent, plastic orange cover in which ‘Mood River’ was embossed in an elaborately inflected, flowingly ribboned font. A sense of plasticity, materiality, affectivity and inflection was wrapped around her words.

Lavin claims that Banham, through this essay, is “more-or-less the only architectural critic to say anything interesting about plastic,”¹⁷ but she critiques the opposition he sets up between hardware and software, suggesting that the plasticity of software rather bought something repressed within hardware to the surface. She tracks the role of plasticity in architectural discourse back to its earliest days, with Vitruvius’s *Ten Books*, where he codified the ‘plastic arts’ as derived from the Greek term *plassien*, or to mould.¹⁸ The plastic arts were rooted in the material and manual labour of ceramics, stucco, plaster and sculpture and distinguished from the ‘higher’, liberal arts which pertained to abstract rather than material properties.

Lavin notes that in modernism the use of the term ‘plastic’ seems to attain a higher status, where she claims that almost every major modern architect was interested in the kind of plasticity discussed by le Corbusier



7.07 Juxtaposition of images from the films 2001 and Barbarella.



7.08 Archigram, Inflatable Suit-Home, Milan Triennale, 1968.



7.09 Images from the film Barbarella (1968), Dino De Laurentiis, Paramount Pictures.

19. Ibid.

20. Ibid.

22. Lavin (2002), p. 75.

as a pure creation of the mind. Architecture was now both of a 'higher', abstract order and a plastic thing: "Plastic...is modernity itself for Wright and Le Corbusier in the form of plasticity."¹⁹ The growth of plastic production and application in the 1960s becomes a very *material* analogue of the pure but plastic, conceptual mind such that "plastic exceeds modernity's logic when in the form of a material without an ethical mandate."²⁰ A tension arises here between mind and matter. This gave rise to a sensibility in which, as Lavin puts it, modernity itself "is disfigured by a plastic already embedded in modernity's ideology."²¹

22. Ibid, p. 74.

As Lavin's argument suggests, through this shift in the connotations of the term 'plastic', one can see less of an opposition between the hard and the soft (or the rigid and the responsive) than a transformational surfacing of a materiality "without an ethical mandate" implicitly embedded in logic of modernity. This background materiality, I would argue, can be seen as the plasticity of affect, which highlights the sensual aspects of thinking and the bodily reality of the mind. The battle between hardware and software becomes yet another instance of a sensibility clash that gave rise to a compositional reappraisal wherein a shared ground between competing parties is proffered as a site of mediation. Lavin points out that the history of modernity has involved repeated ruptures and is "thus an inconsistent phenomenon, riddled by moments of oscillation that have opened architecture to spaces of significant experimentation and that have demanded extraordinary agility. These ruptures have given to architecture's history dynamic moments of plasticity."²² The conditions for the articulation of new modes of composition are, in other words, characterized by the property of plasticity.

23. Lavin (2004), p. 9.

The main point of Lavin's essay seems deeply related to her later published book on the architect Richard Neutra, *Form Follows Libido*, where she writes that her "study seeks to explore the zones of affective intensity that came to infiltrate the cool and neutral spaces of modernism."²³ That which infiltrated and disfigured modernism was "affective intensity" – the force of relations at the fold of mind and matter. If this sensibility – this sensitivity to affective intensity – was emerging in the 60s, it re-emerged in a different form in the 1990s, when 'folding' explicitly took centre stage through Greg Lynn.

Lavin gave birth to her and Lynn's first child while finishing the fourth chapter of *Form Follows Libido*, which was titled 'Birth Trauma.' This was in the late 90s, around the time that Lynn's *Embryological Houses* were being widely published. If something was conceived around that time, it was perhaps lodged in Lavin's introductory question regarding why

Neutra's work is still considered to be contemporary.²⁴ This eventually leads to her final remarks that "today's interest in Neutra, the moodiest of architects, reveals that architecture... [is] again able to generate new affective environments. That's why these houses by Neutra are not merely modern but rather contemporary."²⁵ If Neutra's affective sensibilities are poignantly contemporary, then Lavin must have had some particular contemporary architecture in mind. In drawing attention to Neutra's part in a history of relationships between architecture and psychoanalysis (or the analysis of affects) she associates his work with both Peter Eisenman and Frank Gehry. But in her relationship with Lynn, there is perhaps an even more poignant association.

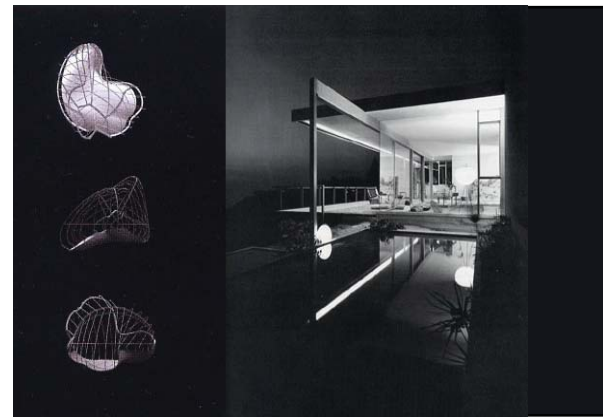
In her book, Lavin tells us how Richard Neutra's wife, Dione, would often play the cello in the background while he delivered his lectures. The air would be filled, explicitly, with a constructed background tone. Her cello playing was, in a sense, part of his architectural atmospherics; the air filled with a musically composed affective texture. Like Dione's cello music swirling around and through Richard's lectures, Greg's plastic diagrams and environments could be considered as the architectural atmospheres in which Sylvia speaks of a contemporary, affective sensibility.

But is this contemporary sensibility really the growth of a *new* style? In Wolfflin's later work, we can find something very similar in what he called the 'painterly style'. He contrasts this with the 'linear style', one that resonates with Banham's juxtaposition of the 'hardies' and the 'softies.' Wolfflin's description of this distinction is of such pertinence it is worth quoting at length:

"The great contrast between linear and painterly style corresponds to radically different interests in the world. In the former case, it is the solid figure, in the later, the changing appearance: in the former, the enduring form, measurable, finite; in the latter, the movement, the form in function; in the former, the thing in itself; in the later, the thing in its relations. And if we can say that in the linear style the hand has felt out the corporeal world essentially according to its plastic content, the eye in the painterly stage has become sensitive to the most various textures, and it is no contradiction if even here the visual sense seems nourished by the tactile sense—that other tactile sense which relishes the kind of surface, the different skin of things. Sensation now penetrates beyond the solid object into the realm of the immaterial. The painterly style alone knows a beauty of the incorporeal. From differently orientated interests in the world, each time a new beauty comes to birth."²⁶

24. Ibid.

25. Ibid, p. 144.



7.10 Juxtaposition of one of Greg Lynn's Embryological Houses (1999) and Richard Neutra's Chuey House (1956).

26. Wolfflin (1950), p. 27.

There is a neat likeness between Wolfflin's description here of the 'painterly style' and those characteristics I have been emphasising as key to the field of processual architecture. Rather than something 'new' it starts to seem like more of a development of a style that has long operated through related sensibilities. But like all reappraisals of compositional principles, I have argued, there is an attempt to establish a new ground of shared action between divergent styles.

What Wolfflin refers to as 'plastic' does not appear to be the same as the conceptual plasticity that Lavin refers to. Rather than plastic images of the mind, Wolfflin's plastic pertains to the precise, measurable, solid dimensions of finite things that can be staked out with the hand, and seems related to the 'base' materiality implied in Vitruvius's notion of 'the plastic arts.' But rather than a dichotomy of mind and matter carving the division between these two styles, he allocates them to the hand and the eye: the plastic pertains to a sensibility developed through the manual acts of the hand, whereas the tactile pertains to the change and movement of the thing in its relations, as felt out through the eye. The ground shared by stylistic leanings is, for Wolfflin, bodies, which act differently according to their particular interests in the world. What's different in the contemporary affective sensibility is that the eye and the hand, along with the rest of the body (including mind), fold into a complex collaboration in what Massumi calls "the glue of the world": affect.

Processual architecture tends to focus on the behavioural relations that define a generative process through which form emerges. I have been trying to suggest that this emphasis on behavioural relations is not confined to the models, diagrams and fields being designed, but implicates the behaviour, attention and modes of perception of the designer within the design event and in their relationship with the materials they work with. The mode of composition that holds together this new style comes to bear through the dynamic balance struck between affecting and being affected. The standard and the non-standard, yet another way of imagining this broad and enduring stylistic division, was earlier discussed as a distinction pertaining to the distribution of the power to affect and the power to be affected within a given negotiation. Style, as I suggested at the beginning of this Act, is about ways of doing things and modes of engagement, and this is just as relevant to the formal poise of solid things as it is to the behavioural dynamics of living action.

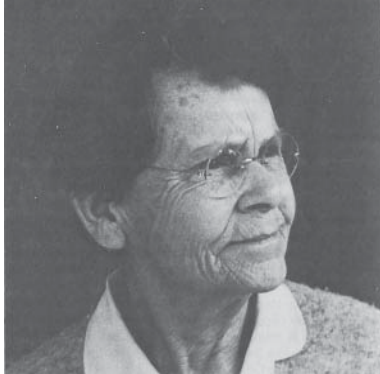
If various ruptures of modernity have repeatedly produced dynamic moments of plasticity, this plasticity arises through a reassembling of the shared ground of affective action. The compositional guides that

have emerged historically have been, for all their abstraction, relatively figurative systems such as character and elastic geometries. In this next stage of compositional regrounding, the affective contours have been withheld from figuration, where affective quality remains uncategorized into named feelings or figures. The navigational guide of composition becomes an affective texture, or an uncapturable movement-image, that emerges through situational negotiation. This guide pertains to modes of behaviour and an ethics of action performed by the designer, the design process and the designed.

The soft, non-standard and painterly are differentiated from the hard, standard and linear through *ways of recasting affect into form*. With processual architecture, the emphasis is not just on the formal behaviour, nor on the behaviour of the designer, but on the affective relations, shaped or affected by the generative processes, through which they mutually affect one another. The formal result is not an end point, but a trigger of affective relations, transduced from the act of designing to the act of engaging in the world.

As Mark Twain apparently said: "History doesn't repeat itself, but it rhymes". And this variation of this rhyme perhaps offers the poetry of composition a new sense of its dynamic unity; of the affective life of its character and the affective character of its life.

But, if this says something about the poetics of composition, what about its *physics*? Given Holland's call for a conjunction of poetry and physics, a loose bit of science might help to tighten up the poetry.



7.11 Barbara McClintock, 1980.

27. Ibid, p. 127.

3. The Intricacy of Intimate Relations

Isabelle Stengers has written on what she sees as the style of science as practiced by Nobel prize winning geneticist, Barbara McClintock, who made substantial contributions to genetics through her studies of corn. McClintock was seen as something of an oddball amongst her field; her way of working was foreign to the normative modes of scientific research. Stengers writes that McClintock's research documents were:

"... detective articles: frenzied constructions, abounding in details, seemingly incoherent for those who only gave them a superficial reading; a slow and subtle creation of meaning, a narrative that could not be condensed from an encounter with a multiple and ambiguous adversary and that could only be understood by those rare few who knew that one does not "force" corn to speak, that one can only interrogate it by way of its distinctive and demanding conditions."²⁷

The delicately poised stance that Stengers associates with the implicit demands of complexity science (Act 2) are embodied in more detail here through the particular work of McClintock. McClintock's stance could be seen, from an external viewpoint, to be similar to the posture of Stevie (discussed by Robin Evans), while offering an insight into that experience of creative immersion that is so rarely discussed. McClintock becomes so immersed in her work that, as she herself puts it, she would forget herself:

The more I worked [with chromosomes], the bigger and bigger [they] got, and when I was really working with them I wasn't outside, I was down there. I was part of the system ... As you look at these things, they become part of you. And you forget yourself. The main thing is that you forget yourself.²⁸

28. Cited in Root-Bernstein, Robert (1997), p. 9.

But she forgot herself through throwing herself into the world, suspended in the question of what, in the particularities of this moment, is happening? This is quite different to the normative question of modern science – 'what, in any-moment-whatsoever, is happening?' – that generates a different kind of suspense: a departure into the airspace of universal, transcendent truths. In such a space it is hard to land without ruining everything; one cannot 'properly' leave such ideality. Alternatively, the openness in the act of forgetting takes her mode of engagement out of the objective, distancing, critical posture and threads it more intimately into the texture of the situation. Rather than attempting to 'measure up'

an observed occurrence she practiced how “to measure oneself against it [the subject] like a subtle, complex partner, whose secret will only ever be uncovered by an effort that combines the minutest details and the imagination.”²⁹

29. Stengers (1997), p. 125.

‘Forgetting oneself’ is not the same as dissolving or losing the self nor is it an objective distancing and denial of the sensual experiences of the self. Self-awareness involves differentiating ourselves from the rest of the world *in order* to be actively engaged. Of course, this operates in reverse as well, because we achieve that differentiation and self-awareness through the act of relationship. Rather than observing the mechanics of relations and denying the sensual affects of this engagement, or dissolving oneself and losing a sense of the contours of engagement, this is the intimate, complex, visceral engagement of an intimate relationship with one’s research.

McClintock does not present us with a figure of scientific neatness and orderly behaviour. Clearly, however, she is also not so unregulated that her research outcomes were only suggestive or poetic. Rather like Francis Bacon perhaps, she ground up her data very fine, taking an ‘image’ or a model of gene behaviour and twisting it through an effort to combine “the minutest details and the imagination.” In a very complex, intricate, many dimensioned affect attunement with her subject, she generated a model so profoundly innovative that, eventually, it scored her a Nobel Prize. This was a creative process that delved deeply and intimately into a very particular situation in order to live the dynamic relations of micro-level operations. Her style of science emerged through sensibility, as conditioned by a posture that combined the strengths of, for instance, the surgeon and the magician. She didn’t force the corn to magically speak, nor did she objectively analyse by denying a sense of affection. She engaged with it eye to eye, allowing an affective connection to build from both directions, enabling a new model of genetic behaviour to emerge.

In a convergence within the ethico-aesthetic know-how of emergence, art and science dance together through shared styles of movement. The art of emergence is tightened through a very finely ground level of attention to affective movements – that constitute its overall or macro-level compositions. The science of emergence is loosened through embracing, affectionate engagements in its approach to micro-level relations.

PART THREE

Collective Composition

Act 8. The Flexible Mould and Collective Resonance

Act 8 discusses my teaching practices within the postgraduate program I directed at SIAL and the resulting collaborative exhibition-event, *Skins of Intimate Distance*. I examine Gilbert Simondon's model of individuation and the way he incorporates the action of moulding within his conceptual schema. Simondon's model offers a way of articulating the mode of composition that I put into play within this project, and its value in terms of its more enduring outcomes, that are embedded in relationships rather than purely the more tangible outcomes of the exhibition-event itself.

1. Skins of Intimate Distance

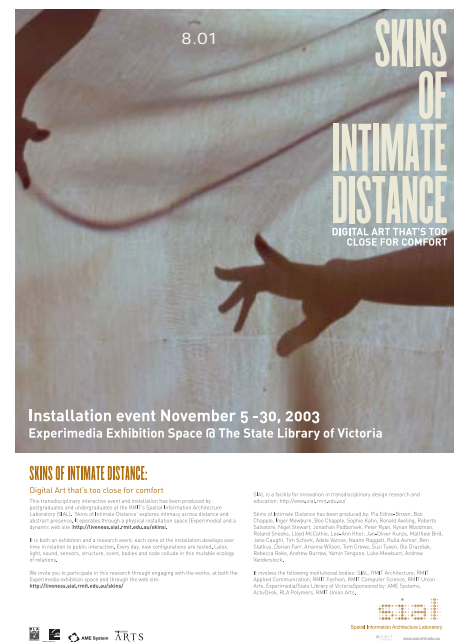
1.1 Here. Now.

I am here now, writing. You are now in some time and place unknown to me, reading. We can't see each other but you know I was here and I know that you're here. There is a sharing that reaches across our nows through written words. I feel touched by your immanent presence and I hope you are touched, here, in your moment of reading.

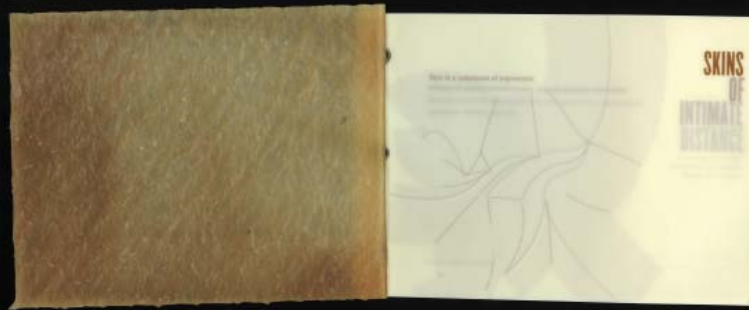
Between your now and mine is a shared here. Here. The specifics of its time and place are neither here nor there but caught up between things, within assemblages, across passages. It's an elusive here, a dispersed now.

Writing for print is one form of remote communication. Information technology offers other forms. This often involves the opportunity to 'go live': to share otherwise dispersed now's simultaneously. Reception time is significantly de-lagged. The temporal gap gets squeezed out of play as moments collide across distance. We can very easily both be here, now, sharing aspects of the same worldly moment. This is enormously affective: the feeling of you, over there now, brings you closer. Sharing the now.

Temporal de-lagging becomes even more vital and extensively affective when considered in tandem with other responsive sensitivities involved in our technologies. Objects and events are animated with new kinds of life-like power and complexity. This occurs in quite literal ways through technological invention (such as the proliferation of sensors, artificial intelligence systems etc) but can also be felt in more general ways through the intensified variability, instability and sensitivity of socio-cultural operations.



8.01 Poster for the Skins of Intimate Distance event. Designed by Arianna Wilson.



8.02 First four pages of the Skins of Intimate Distance catalogue (October 2003).

Rather than just temporal simultaneity, we take 'liveness' to be a more expansive sense of living presence. It's not just that technology is converging with biological aliveness, or that the biological is getting more technological. Both of these are occurring. Between them is an involuntary, emergent reassessment of what counts as 'life'. This biopolitical age is one in which life itself becomes an object of manipulation, recreation and reassessment.

And within this, what counts as material, body and substance is opened up. Embodiment is not about objects limited to the field of visibility, nor is it defined by the flesh of individuals. It's a mistake to think that our digital, biopolitical age involves disembodiment. We can live intensively embodied lives in ways not previously possible.

Skins of Intimate Distance plays with liveness. It began with the idea that we could produce a new media artists version of Big Brother: an arts event that lives an unpredictable life - evolving through folding into fields of influence well beyond its control. Rather than a series of personal interrelations being monitored, we would give live broadcast to the relations between projects, their engagement with a public and the evolving character of each work. As such, all the projects needed to be open and responsive enough to allow for a fruitful engagement.

We've been letting this evolve, uncertain of where it will go - or what sort of beast we will have produced by the end of the event. You can contribute to this product through engaging with the installation and the web site. Here is your user's guide.

Our shared here and now matters. Sharing carries the substance of the world. It feeds life (you are what you share).

See you there.

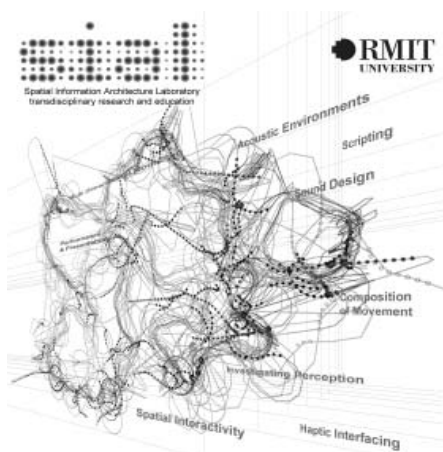
[catalogue essay for *Skins of Intimate Distance* essay, 2003]

1.2. The Postgraduate Program

1. Massumi (2002a), p. 207.

2. SIAL and the postgraduate program were instigated by Leon van Shaik. Professor Mark Burry was bought in to direct this research laboratory.

"Use your imagination: no single logic, geometric or otherwise, is flexible enough to encompass the concrete abstractness of experience in all its ins and outs. Just as the body lives between dimensions, designing for it requires operating between logics."¹



Transdisciplinary Postgraduate Program

The SIAL Graduate Certificate is a transdisciplinary program integrating practice based research with theoretical inquiry. Participants develop individual projects through collaborative exchange. A vibrant spatial + new media oriented research environment provokes exchange across disciplinary practices, expands expertise and develops networks.

Applications due: December 2nd
http://www.sial.rmit.edu.au/2004_pg

8.03 Advertisement for the SIAL Postgraduate Certificate program, for 2004 intake.

3. An explicit research orientation is unusual for a Graduate Certificate which is ordinarily aimed at pre-defined skills acquisition. We had initially intended to put together a SIAL Masters program, which did not happen for a number of reasons. From the University perspective, a requirement of the program was that it be full fee paying which meant it had to be structured by course work (unlike research masters). For various political and structural reasons embedded in the relationship between the Bachelor of Architecture degree and the Masters (by research), the development of full fee paying Masters by coursework was problematic at the time. Instead, we articulated the Graduate Certificate as the first semester of a Masters by research, should a student wish to carry their research on to further study. This did occur with about a third of the students. In this way we also answered to the 'risk factor' of cross disciplinary programs. For students with no prior contact with the School of Architecture and Design and/or design disciplines, this offered a way to become involved in the SIAL research environment without the longer term commitment of a Masters or PhD.

Skins of Intimate Distance was produced in the first year of a postgraduate program developed for the Spatial Information Architecture Laboratory (SIAL).² This program was a one semester (of a two semester year) Graduate Certificate program that lead to a research Masters. The program took its first group of students in early 2003. All these initial students did the program part-time rather than full-time, so it was stretched out over a year.

As a research laboratory, SIAL explores the convergence of new technologies, design and spatial information. The program was designed to operate at this nexus. But this nexus was not pinned to developing a specific knowledge base or set of skills. Architectural design knowledge was clearly the foundation of SIAL as most researchers and teaching staff are architecturally trained, but the school itself encompasses architecture, interior design, landscape architecture, industrial design and fashion. The laboratory was set up to feed into and out of these multiple design disciplines with an exploratory research agenda. In accord with this agenda, the postgraduate program was to accommodate a range of disciplines and to be focussed on project based research.³

I envisaged the program would attract postgraduate students from a range of disciplines through a structure wherein they produced their own research within a collectively held overarching project. As such the program could both exercise and expand the expertise of each individual practitioner through productive intersections with others. I had hoped that the range of disciplines involved in the program would be broader than the various threads of design, mixing these with people from, for instance, biological science, computer programming and art. The program attracted largely artists. But as it turned out, all those attracted to the program were already 'discipline hoppers' - each person having quite mixed backgrounds, having done or at least started, several degrees or already actively shifting their work outside the boundaries of their primary discipline. Across the four primary students there was background experience in sound art and composition, comparative literature, architecture, digital rendering,

management, photography, film, installation/sculpture and performance art. It was set up to be a kind of creative think-tank to work on problems in individual projects while chewing over problems about broader, more collectively defined issues.

At a pragmatic level, the value of transdisciplinarity lay in the sharing of knowledge, skills and expertise in the development of projects and the potential therein for explicit convergences into collaborative work. All of these hoped for outcomes did occur successfully, sometimes quite explicitly, certainly variously but often in ways we barely noticed at the time.

In terms of both action and content, the program was focused on an elusive issue: transversality or that which links, connects and moves between things. Trans- is a prefix meaning 'across', through' and 'beyond'. The transdisciplinary moves across, through and beyond the disciplinary. This emphasis was related to a broader, more implicit research project that was loosely defining the emphasis of the program, that being a desire to make some kind of sense of the paradigmatic shift, to put it in Deleuze-Foucault terms, from disciplinary societies to societies of control.

As a broad or general posture, the postgraduate program was inflected by an effort to make some sense of a spatiality characteristic of our times, or to give some articulation to a background, socio-cultural atmosphere. This program involved an effort to thoughtfully materialise indicative signs, or to express something of its rhythm and composition through dancing with it.

The theory seminar component of the program was called 'Vital Signs', alluding to 'feeling the pulse' and signs of life, aliveness, cultural vitality. One 'sign of the times' that was emphasised lay in *forms of participation* through which engagement with cultural artefacts and events are shaped. Experiments with 'interactivity,' that were active throughout the last century,⁴ involve a shift in art and architecture to shape the *form of encounter* as much as the form of the thing in itself. Reality TV is a culturally pervasive and popular example of this. By opening an unfolding or live narrative event to responsive feedback, this form of art (if we can call it this) loops in and out of collective feeling. Reaching far beyond the example of reality TV, objects and mechanical systems are becoming less readily separated from one's own actions.

Within this participatory emphasis the artefact becomes more *emphatically* performative. Artefacts such as paintings are already performative, just in a muted or more suppressed fashion. The atmosphere



8.04 Bruce Mau Design, Promotion for the Power Plant, Contemporary Art Gallery, Toronto.



8.05 SIAL postcard.

4. Interactivity is not purely a fascination of the digital era, and can be related to the efforts of early modernism, with cubism for instance. It became particularly intense in the 50's and 60's as can be seen with the Cedric Price's Fun Palace, Archigram and Situationism. Banham's emphasis on responsive environments in relation to the 1968 film *Barbarella* was part of this.

of viewing and presentation is always affecting the perception of the artefact, and on a different time-space scale, its cultural status is inseparable from its reception. Live performance always involves this feedback and participation because the audience cannot help but contribute to the general atmosphere of the event, simply by being there. This atmosphere affects the performers and the performance as well as the audience. While feedback is always there, the ways and degrees with which it is active differs significantly. Pantomimes, for instance, far more actively encourage audience heckling, while ballet and opera require that the audience only actively offer feedback in their final applause, the intensity of which is taken as measure of appreciation. Nevertheless, in between the applause or the heckling, the performance itself is always being affected by the atmosphere. Big Brother could be seen as a pantomime leveraged out beyond television through its combined use with other communication technologies.

One of my agendas was to approach theory in a similar way. Rather than announce its end or its death, I believed the issue was more one of how we approach and engage with theory. Like the increased performativity of the object, various theories, offering accounts of aspects of the world, could be approached with the attitude that it would not be studied as a discrete object or closed system but as something that would be inflected through engagement. Obviously, this implicated the 'Vital Signs' theory unit, which asked that students approach readings by continually returning and turning into discussions of their creative projects, such that divisions between theory and practice were unsettled from the start.

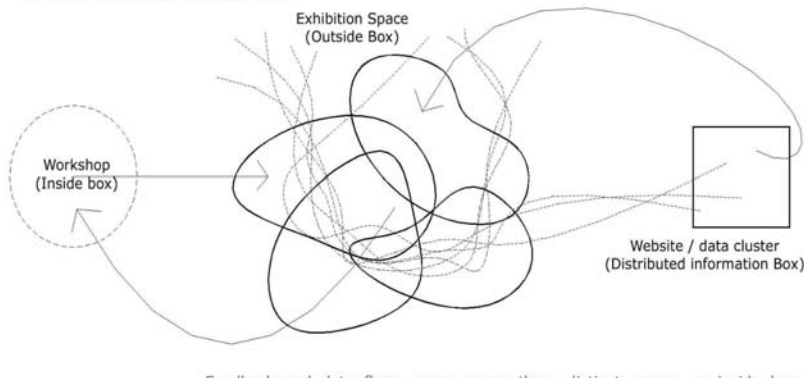
1.3. Liveness

'Life' is a somewhat encompassing term, loaded to the hilt with assumptions and habits of thought. So rather than place an emphasis on life and the living, I embedded the issues in the term 'liveness', which tends to mean things happening in 'real time', like watching a live band, seeing a game of tennis live on tv or listening to talk back radio. These ideas of liveness tend to assume an idea of an *authentic* perception of life/events as distinguished from a recorded and reproduced (and simulated) encounter with an event. This appeal to 'authenticity' mostly hinges on simultaneity *in time*. Liveness is about experiencing something 'as it happens.'

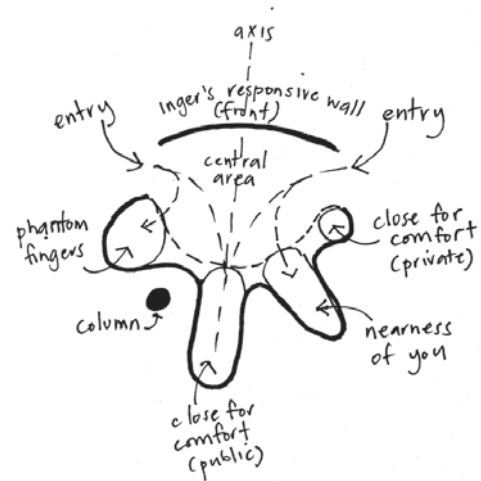
As it happens, I used the term 'liveness' here in a slightly different way, one influenced by Massumi's discussions on the significance of the virtual and Bergson's duration. While the perception of something happening NOW - even when it's happening elsewhere - induces a powerfully direct sense of co-presence and immediate co-relation, events that have already happened also co-inhabit the moment, just as directly but less opaquely, like ghosts. We call this the virtual dimension which, when perceived as an aspect of the present, becomes an important dimension of duration. But this historical presence is only the beginning of the story of the virtual: things virtually there are not just historical, they are also in potential: potential actions and futures, imaginations, unconscious or nonconscious activity, hidden knots and peripheral visions. Most of what happens is not clear or conscious. Most of it, in fact, is virtual: so much intangible presence that folds into every present moment. Suppress the virtual and things get rather lifeless or pallid. Amplifications of virtuality make things lively: there is a palpable sense of liveness, aliveness or liveliness, three terms which here become somewhat synonymous.

So, liveness is more than experiencing something 'as it happens', it is a more expansive sense of aliveness. It is the duration that Bergson philosophically urged us to feel, that Wölfflin promoted architecturally and Lynn has struggled to work with. I chose 'liveness' instead of 'liveliness' or 'aliveness' in a gesture of connection between the Bergsonian, Wölfflinian movement-image and the deeply held, infusive affects of information technologies on the conditions of our present experience.

Relationship Diagram

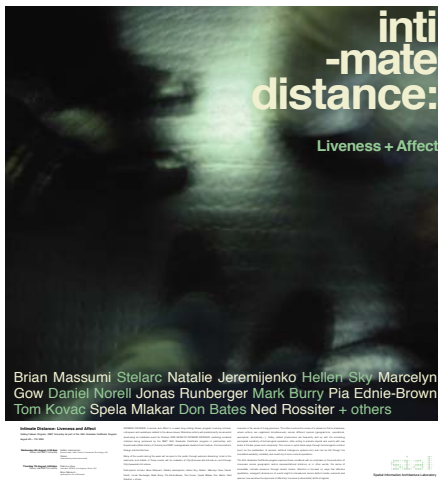


8.06 Inger Mewburn, Relationship diagram of Skins of Intimate Distance configuration.



8.07 Schematic layout diagram of installation.

1.4. The Event



8.08 Poster for Intimate Distance visiting scholars program. Designed by Arianna Wilson.

"A political ecology is an amoral collective ethics. Ethics is a tending of coming together, a *caring* for belonging as such."⁵

Each of the postgraduate students had some kind of project proposal to work from, laid out already in their application to enrol in the program. I was keen to actively foster intersections, overlaps or, perhaps, mergers between these projects as they developed. Fairly early in the year, within the context of the theory seminar, I put a proposal to the group, suggesting that we start with the idea of staging some kind of new-media-artists Big Brother, except that rather than the behaviour of the person being the subject of public scrutiny, it would be the behaviour of projects in development. I suggested that after some initial project investigation, they would enter into an intensive 'live-in' scenario of a studio environment from which project development would be streamed, in some way, for public engagement and feedback. All were enthusiastic. It was a vague proposal that was focused less on specifics than the general configuration found in contemporary forms of participation, where relations of intimacy and distance become twisted into a feedback loop of responsive on-the-fly 'tweaking'.

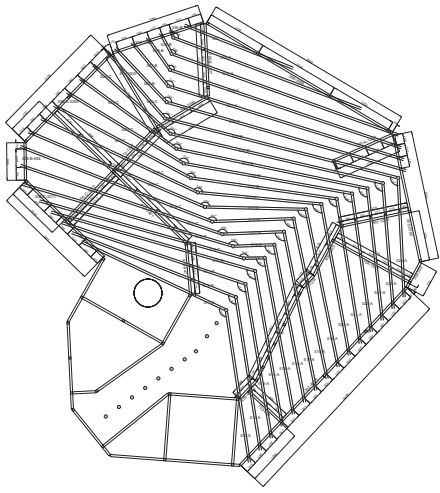
While the postgraduates began their project investigations they also searched for possible venues. The best option we found was an exhibition space called 'Experimedia' in the State Library of Victoria. On deciding on this venue, we were also restricting our capacity for live streaming of events. Firewall and bandwidth issues meant that this would have to remain fairly modest.

I called the event 'Skins of Intimate Distance' and at the beginning of the second semester we staged a visiting scholars program, 'Intimate Distance; liveness and affect', involving student workshops and seminars,



8.09 Scene from the SIAL student lab during the Infollations, virtools workshop run by Gow et al.

5. Massumi (2002a), p. 255.



8.10 Part ceiling plan of Skins of Intimate Distance exhibition structure.



8.11 Skins of Intimate Distance installation with Boo Chapple inside the skin.

where we assembled the key guests of Brian Massumi, Natalie Jeremijenko and Marcelyn Gow (SERVO). Along with Mark Burry and other SIAL researchers, those involved included Stelarc, Hellen Skye (Company in Space), Daniel Norell, Jonas Runberger, Tom Kovac, Spela Mlakar, Ned Rossiter, Robyn Barnacle, Brent Allpress, Donald Bates (LAB) and Andrew Benjamin. This week long event involved public lectures, a design workshop with Gow, numerous discussion seminars with Massumi and others, and the opportunity for the postgraduate students to present their projects to this community of people for discussion.

For the design workshop, a group of undergraduate architecture and fashion design students gathered in a seminar through which to design and construct the exhibition structure: the 'housing' of the work. They worked with Gow, Norell and Runberger (assisted by Roland Snooks and Jonathan Podborsek) in producing a set of highly speculative and exploratory propositions that were focussed around the use of a particular software package, *Virtools*.

This then had to quickly turn back into a range of particulars required for the exhibition structure, that were only then becoming clear as the postgraduate projects took shape and the limits of budget, sponsorship and such forth congealed. These clarifications and the need to resolve the design of the structure all happened in a very short time frame. It was not unlike the animated casts: once the mould was strung up and the plaster poured, we could push things about to some degree but we had to move fast.

We knew we had an aluminium system with which to construct the 'bones' of the structure (donated to us by AME systems). We decided to use this to support large sheets of skin textured latex (recently developed in the production *The Shower*, as discussed in the next Act) that would wrap around and enclose each project, suggesting a continuity between them. Apart from its textural, qualitative dimensions, the latex offered



8.12 Making the latex skins.



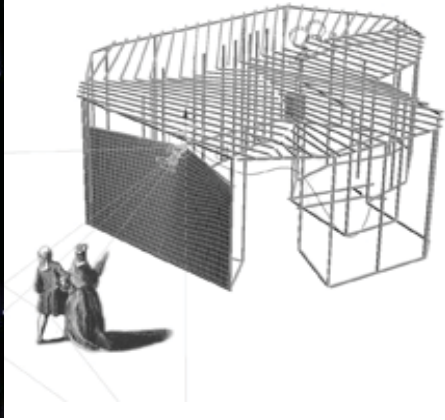
8.13 Constructing the installation structure.



8.14 Too Close for Comfort, Boo Chapple, inside performance space.



8.15 Responsive Wall, Inger Mewburn, one version of the particle fall against a silhouette.



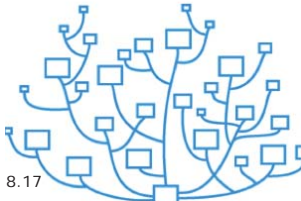
8.16 Responsive Wall diagram, Inger Mewburn.

'wall' surfaces that could be manipulated (through pulling, stretching, puckering etc) by each postgraduate to 'fit' the project, while remaining a fairly continuous entity, or as a single enveloping skin or mould. I drew up a basic schematic plan based on the intentions of, and relationships between, each project. This shifted and twisted into place through a range of influences and constraints to do with siting, required areas, buildability and various aesthetic judgements. The roof structure was designed to add another layer of connection from above, for which a relatively elaborate skeletal patterning was generated using Rhino software. Primary paths of movement and intersection acted as kinks in a striated 'hatching' flow, that visually and structurally held the structure as a whole together.

The resulting piece was made with 50m or so of 3 meter high sheets of latex hung and attached to a structure about the size of a small apartment. A long and exhausting process was set in place in which sheets of latex were cast with laser cut timber 'moulds', one by one, in an unused space at RMIT. This material afforded the exhibition a literally, or physically responsive dimension, where the housing was elastic and responsive to touch. These skins were supported by an extraordinary amount of aluminium donated to us very generously by AME Systems. Latex is a smelly substance and the Experimedia gallery was soon highly 'perfumed' by a strong latex odour. We managed to obtain some other 'perfumes' that would add to this olfactory dimension. These perfumes were 'blood', 'breast milk', 'rotten wood' and 'swamp water'. Small vials of these were placed in various locations to delineate 'smell zones'.⁶ The outcome was quite monstrous: smelly, skin-like, glowing with a range of responsive movement occurring within it. There was a series of interactive pieces housed in this latex monster:

Responsive Wall (Fig. 8.15-16), by Inger Mewburn: a very large projection of falling particles onto which the shadow of passing bodies was also projected. The shadows collected the particles on the edges of their silhouette inducing a phantom feeling of being touched.

6. Unfortunately these didn't work well, being too subtle to noticeably push their way through the overwhelming latex odour.



8.17



8.18

8.17, 18 The Nearness of You': a diagram, Ron Aveling (with Robert Salvatore).



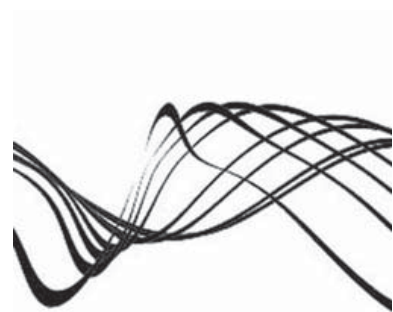
8.19 Phantom Fingers, produced by Kynan Woodman, Jan-Oliver Kunze, Peter Ryan, Tim Schork.

Close for Comfort (Fig. 8.14), by Boo Chapple: a small, narrow latex bed space which would vibrate from underneath. On one wall of this space a projection was being manipulated live by the artist, who sat in a different enclosure in a near naked state with her computer and video camera, performing for her tightly held, vibrating audience.

Nearness of You (Fig. 8.17-18), by Ronald Aveling: a baby's face on a screen at the end of a corridor that would respond in various ways - such as to cry or smile - as you moved closer or further away.

One of the postgraduate projects never made it to the show due to personal difficulties. We used the space set out for her in the exhibition structure to house a minor piece created by some proficient programmers in the undergraduate student group. This was *Phantom Fingers* (Fig. 8.19): a perspectively rendered surface projected onto the vertical latex that, through light sensors, would modulate to the pressure of ones hands pushing into a nearby taut latex skin.

A web site was produced, which was intended to become the on-line access to the projects. Embedded in the web site was a further project, designed and produced by Inger Mewburn and Boo Chapple: the *Live Presence Field* (fig. 8.20). This was an animated visualisation that registered activity occurring in the exhibition space for those not present, but visiting the project on-line. Data was gathered from three different types of sensors mounted in separate zones in the space. *Close for Comfort* involved a motion sensor, *The Nearness of You* involved a proximity sensor and two pressure pads were placed in the *Phantom Fingers* area and in front of the *Responsive Wall*. Each of these sensors uploaded its state data to the SIAL server where scripts interpreted the data sets and propelled the visualisation into various kinds of action.



8.20 The Live Presence Field, Inger Mewburn and Boo Chapple.

Developments on the interactive works during the three week period were recorded on blogs. Each postgraduate posted regular notes on their experiences, tests and adjustments they were making to the piece in response to public interaction. We hoped these blogs might elicit comments and discussion, adding to the feedback gleaned through public interaction on the exhibition floor. While this feedback did not happen to any significant degree, they became a useful resource when the projects were being discussed and reprocessed later.

2. Resonance and the Flexible Mould

"...no rigid distinction between the living body and inorganic matter is sustainable. Sensation is in the world, which carries its own charge of vitality. The difference between the sensitive capacities of organic and inorganic matter is of transductive mode and degree. It is not a difference in kind."⁷

7. Massumi (2002a), n. 5, p. 276.

2.1 Gilbert Simondon

In coming to terms with the *Skins* project, as well as exploring its relations to my other projects, Gilbert Simondon's theory of individuation offers a valuable conceptual armature. This theory is in no way limited to the nature of human individuality. It offers an elegant, though complex, way of approaching non-organic and nonhuman life in which, for instance, architectural form can be understood as a participant in an ongoing process, wherein its 'life' or its ontology cannot be reduced to formal concerns alone. He bases individuation in a pre- or trans-individual reality through which human and non-human players connect.⁸

8. There is much in common here with Actor Network Theory and the work of Bruno Latour. I have not explored Latour's work here thoroughly enough to comment extensively on the similarities or differences, or what ANT may offer to my discussion. I can only signal an affinity here.

Gilbert Simondon's philosophically bent theory of individuation resonates with Stern's empirical account of the self and the experience of emergence. Simondon's *L'individu et sa genèse physio-biologique* has clear affinity with the science of self-organisation, providing a psycho-philosophical companion to complexity and emergence theory despite having been written in the 1950s. In this sense it is perhaps not at all surprising that Simondon's work has enjoyed significant celebration in recent years. Amidst more extensive references from cultural theory, his

work influences and is drawn upon by those such as by Brian Massumi and Manuel Delanda. Adrian Mackenzie's *Transductions: bodies and machines at speed* (2002) worked Simondon's theories through many contemporary situations in an exploration of how one can, without getting bogged down or blinded by the baggage that the term 'technology' carries, engage critically with specific technologies. Very little of Simondon's work is published in English and much of my understanding of his writings have been informed by the accounts of others. As such, my understanding of his work is very partial, mostly (but not entirely) second hand and I am only drawing on limited and specific aspects of his work.

2.2 Individuation

Simondon delves into the question of 'what is an individual?' or how can one be distinguished from all others? His answer quickly alters the question from the 'what' to the 'how' in that Simondon's individual is not an entity so much as an *ongoing process*: individuation.

With individuation no 'individual' can be isolated from its surroundings, or from other individuals. As Steven Shaviro writes:

"the individual can only be defined in relational terms, in contrast and connection to its 'milieu,' or to what it is not, but from which it has emerged. That which allows us to distinguish an individual, to see it as separate from everything else, also forces us to link it to everything else. I cannot be an individual at all, without the presence of that which is not me, not my individuality."⁹

9. Posted by Steven Shaviro on his blog, December 4, 2003 11:46 PM, <http://www.shaviro.com/Blog/archives/000221.html> (accessed April 04, 2005).

At the core of his theory is the metastable status of the individual. Metastability is a state of constant internal agitation. It is a stability harbouring instability. The constant of metastability is its excited state that operates in varying degrees and kinds of consistency. Living individuals are bundles of internal tension, which resonate in the playing out of an always moving character. But this is no less true of groups or gatherings of any kind; various scales of envelope, from the individual to the group, to a group of groups etc, are individuating metastabilities.

Individuation is an event in which multiple, disparate dimensions form a:

“partial and relative resolution manifested in a system that contains latent potentials and harbours a certain incompatibility with itself, an incompatibility due at once to forces in tension as well as to the impossibility of interaction between terms of extremely disparate dimensions.”¹⁰

10. Simondon (199

This out-of-step internal conflict is an aspect of the metastability of the system, where it can never be a simple, or non-complex, unity. Rather, it is always inseparably part of its milieu or its environment such that it is both less than and more than whole. As Simondon writes: “Individuation, moreover, not only brings the individual to light but also the individual-milieu dyad.”¹¹

11. Ibid.

Again, this is not restrained to the human. Individuation is a process that also plays itself out in nonliving entities, albeit with some important distinctions to that of the living. We have already seen this dyad being foregrounded by Wölfflin in relation to how form and style unfold in a milieu. For Simondon, the primary difference being living and non-living individuation is that “the living being conserves in itself an activity of permanent individuation”,¹² whereas the non or semi-living is the *result* of an individuation. But the form of this result is never absolute: just as stability is always metastability, form is always information or in other words, remaining in (the process of) formation. Even when the supple, transformative individuating process comes to an end, aspects of that process await the potential of its ongoing engagements. Things are always part of events; places and times. Matter is never simply inert, because always embedded within its stability are metastable states or implicit potentials for participation in events.

12. Ibid, p. 305.

2.3 Transduction and Resonance

Simondon brings the concept of *transduction* into this individual-milieu relation. Usually, transduction refers to the transfer of information from one medium to another: such as when the ear converts a sequence of pressure waves in the air into nerve impulses. But Simondon’s use of the concept doesn’t restrain itself to a linear idea of movement, progression or conversion, but rather sets up an operation that always involves a more spatial, expansive matrix of relations. Here, information does not so much move across and through things as if travelling along a passage. Rather, transduction is modelled more on the idea of *internal resonance*, where the pattern or rhythm of things such as pressure waves and nerve impulses enter into a sympathetic vibration, moving into a shared rhythm. This

involves, in a sense, a *form of feeling* that swells out of a sea of diversity. A 'form of feeling', as Stern discusses it, and the 'force of form' that Wölfflin emphasises, are that which emerges from the resonant intensity of an affect.

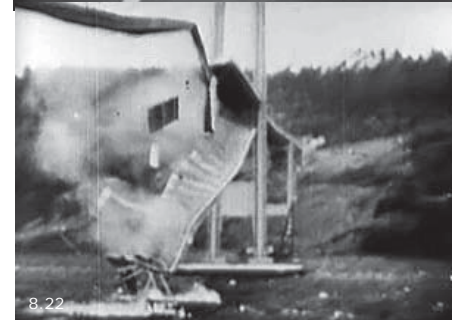
Simondon's concept of individuation is one that *necessarily* incorporates a diversity of disparate dimensions into the consideration of, for instance, how form both emerges and continues to be actively part of dynamically unfolding actions. It offers, for instance, an antidote to reductive formalism. It allows for both a kind of wholeness and a *diversity and divergence that is integral to it*. A form of feeling may arise but not without having emerged out of an internal complexity that is certainly not a set of peaceable, seamlessly connecting compatibilities. As Adrian Mackenzie summarises:

"The main point is that transduction aids in tracking processes that come into being at the intersection of diverse realities. These diverse realities include corporeal, geographical, economic, conceptual, biopolitical, geopolitical and affective dimensions. They entail a knotting together of commodities, signs, diagrams, stories, practices, concepts, human and non-human bodies, images and places. They entail new capacities, relations and practices whose advent is not always easy to recognise.... Every transduction is an individuation in process."¹³

At a broad scale of action a knot in which diverse realities twist into one another might be a useful image through which to conceptualise the idea of a 'pulse of the age'. Similarly, internal resonance could be likened to Wölfflin's 'intelligible will' or force of form. While in the living being there is "a perpetual individuation that is life itself,"¹⁴ the non-living individuation occurs in the process of formation, wherein the qualities of the object become manifest. It is through this process of formation - when all its diverse realities enter into a complex inter-relational negotiation, that a resonance emerges, captured, in Wölfflin's terms, as 'the force of form':

"Internal resonance is the most primitive form of communication between different orders of reality; it comprises a double process of amplification and condensation."¹⁵

Scientifically-colloquially speaking, resonance occurs when things vibrate in relation to a provocation that is somehow 'on its wavelength'. An object has a natural frequency (or a range of them) such that if it encounters a vibrational frequency similar to its natural frequency they will



8.21, 22 Tacoma Narrows Bridge collapse, 1940, USA.

13. Mackenzie (2002), p. 18.

14. Simondon (1992), p. 305.

15. quoted Massumi (2002a), n. 48, p. 273.

reinforce and amplify one another. The collapse of bridges when vibrated at their natural frequency is one example, as is the resonance of strings, cavities and tubes in musical instruments. Resonance is always internal in that it arises in some particular entity to emanate outwards. In these states of excitation, a movement occurs. Whether we see it or hear it, this movement has a discernable quality to it: a quality of feeling or a felt quality.

A more complex but fitting example is the resonance of sensation. Whether a pin pricks the skin, a sight meets the eye, a memory lunges into consciousness or a thought is thought, there is an accompanying sensation, no matter how minute one's awareness of it is. Sensation is a resonance of some quality of feeling. Even if a sensation can be tracked to a spot as small as a pin prick on a finger, it resonates throughout the body like a shock wave as the arm pulls back in alarm, back muscles twist, etc. Even the sensation of thinking will do this, such as when we stop to think. We resonate with sensation, engaging with the world through affective movement.

2.4 Internal resonance and moulding

Of significant interest here is Simondon's discussion of internal resonance and moulding. He uses the example of a brick, where a mould is used to compact a lump of clay into shape. In the moment where the process of moulding takes place, everything fuses into a highly integrated complex of relations (internal resonance), where the function of the mould, he argues, is to stabilise rather than impose a form:

"matter in the process of taking form is in a state of complete internal resonance; what takes place in one point resonates with all others, at all points and in all directions . . . The mold, as limit, is what provokes this state of internal resonance, but the mold is not that through which the internal resonance is realised."¹⁶

16. quoted Mackenzie (2002), p. 48.

The role of the mould could be likened to the social moulding that shapes individual behaviour into particular kinds of gestures, comportments and composites. These moulds provoke agitation and conflict in the individual and are a necessary aspect of the individual-milieu relations of

all individuation. They condition but do not *determine* the interrelations of forces that constitute the contents of any event. Nevertheless, the mould is not separable from the contents and the nature of the mould does have significant implications.

The mould of the brick is not of a variable nature. Simondon's assertion that the mould does not impose a form but rather supplies "conditions under which a reciprocity of forces within the clay occurs",¹⁷ might suggest that the difference between a rigid and flexible mould is irrelevant. As discussed earlier (Act 5), it is indeed irrelevant to the *existence* of expression. But it does impact upon the *nature* of its expressiveness. As Mackenzie points out, the complications of variable moulds is something we need "to consider in relation to electronic information; as, for instance, in the encounter between gestures, word-processing software and display of text occurring as I write."¹⁸ What the mould does, Simondon writes, is offer "an end to the deformation"¹⁹: it provides an overarching field of influence that conditions and mediates the individual-milieu relations, while provoking and enabling intensities to form. But what if *degrees* of deformation are built into that overarching influence/provocateur/conditioning mediator? It still provides the necessary limits, just limits of a different nature: limits that vary within limits.

A simple, clarifying example can be developed through juxtaposing dance rituals of very different natures. Consider the difference between a group of people engaged in a highly formulaic dance, where they each follow a pre-given sequence of actions, and the modulating terrain of a contemporary dance party, or rave. In the former, there is a rigid mould in the form of a dance routine or choreography that every body must follow and comply with if they wish to be an integral part of this collective experience. Undeniably, this rigidly formed field holds within it a vast range of experiences and individuating complexity. In other words, its stable, predictable appearance conceals a battlefield of internal difference and inter-relational complexity: it is a metastability. In the latter, the moulding is less rigid. The music connects, but each body responds differently to that collective experience, generating a highly differentiated but nevertheless cohesive field. Certainly, the movement and gesture sequences are mostly related to a palette of shared and expected behaviours, but the limits of acceptability are very broad and replete with diversity. The mould has a very elastic range of potential composites. It does not suppress the internal difference and inter-relational complexity; it allows it to be expressed. Stability *expressly* gives over to metastability.

17. Mackenzie (2002), p. 47.

18. Ibid, p. 49.

19. quoted Mackenzie (2002), p. 47.



8.23 Skins logo.

That the limits of the overarching mould are flexible enough to enter into negotiation with that which it moulds, is crucial to the aesthetics of emergence. This was clearly at work in the animated casts but it is also a property of *Skins* as a collaboratively developed entity. The limits of the mould (in this case a particular scenario focussed on forms of participation, while also embodied in an enveloping mutable skin) provide a certain pressure of interrelation and communication through which a resonance emerges that, in turn, affects the limits of the mould/field of influence. *Because* it folds its internal resonance out and back into itself it is capable of a more responsively situated expression.

2.5 Moulding 'Skins of Intimate Distance'

Skins of Intimate Distance involved many and varied accomplishments and frustrations, successes and disappointments. But in exploring the potential of situating individual research development within a connective, collective field, these outcomes pointed to the role of the 'mould'. This mould was little more than the suggestion that I put to the group, one that was intended to be open, affected and influenced by the range of particulars and vice versa. This mould acted as a dynamic, responsive provocation that was cast through the messy field of collaborative process. Understanding this collaborative project in relation to moulding is obviously an extension of earlier research – most obviously, the *animate casts* but in this case the 'mould' is untied from a necessary association with a literal enveloping surface or skin.

My role in *Skins* was as a kind of director or designer that was very much a participant in something, where my 'guiding hand' largely acted to provide a flexible mould rather than to dictate or delineate. It was perhaps something of a picturesque movement-image that guided development. This movement-image or mould thereby attained properties of flexibility in a different guise: that of a game. As quoted earlier, John Holland writes about how "board games, unlike numbers in their raw form, capture the dynamic of unfolding actions and their consequences."²⁰ This game, or form of participation, was no longer a skin or a surface, it was an arrangement of dynamic interrelations, through which negotiations were both encouraged and intensified.

The field of influence within which the *Skins* developmental process took place was so full as to be bursting at the seams. It involved not only the postgraduates and their projects, but also the visiting scholar event and all the influences that this entailed, the undergraduate students, the pragmatics of building the exhibition structure and the web site and so

20. Holland (1999), p. 203.

on – together participating in the interrelations and personal dynamics that this ‘coming together’ entailed. The enveloping framework of a Big-Brother-like configuration gave a flexible ‘diagram’ through which mutual influences could be guided into intensified negotiation.

The value of this mould became clearer with the second group of students in the following year of the postgraduate program. For various reasons (not the least being my own exhaustion produced by the extraordinary effort *Skins* had required), the provocative catalysts of the ‘envelope’ or ‘mould’ that bought individual projects into a shared project fell away, as did the emergence of any significant or lasting cross-disciplinary collaboration within the group. While this larger group contained some extraordinarily interesting and intense individuals who produced some exceptional work, their projects did not mutually inform one another to nearly the same degree. The manifold was not afforded as much intensity or pressure: there was no collectively manipulated mould to provoke the internal resonance that *Skins of Intimate Distance* achieved. The role of the teacher is not unlike that of the designer engaged with emergent processes.

The outcome of *Skins of Intimate Distance* was, in one sense, the exhibition-event itself. But the most *enduring* outcome arose from the resonances that emerged through the process. Two from the initial group, Inger Mewburn and Boo Chapple, went on to do their masters research with myself and with each other (in some subsequent collaborative projects), both completing in 2005. The resonances between us all, in a strong sense of both shared and complementary sensibility, has been part of a process of formation in which *The Liveness Manifold* developed into an ongoing envelope for our collaborative practices involving, currently, the three of us. Collectively, we embody a certain style.

As Wölfflin said, you can’t explain a style through any specific cause. It is a form of feeling or a resonance produced through a practiced diagram, or the iteration and swelling of a “presentation of the relations between forces unique to a particular formation.”²¹ The ‘practiced diagram’ is always affective, in that it pertains to the experience of relations – experienced through the iterations of practice. Through a subsequent project, that I will go on to discuss in the next Act, a more *emphatically embodied* understanding of the know-how pertaining to affective diagramming is unravelled.

21. Deleuze (1988), p. 72.

Act 9. Vibrating Bodies

Act 9 discusses my involvement in the development of a collaborative interactive, multi-user game installation project called *Intimate Transactions*. The discussion is focussed on the way in which tensions at work in the collaborative process resonate with the very interactive problem being tackled within this multi-user installation. These tensions are very emphatically of a social nature, involving dimensions of intimacy and distance in the relationships between people. The social mechanisms at work in these relationships are explored through phenomena such as shame and laughter. The exploration of the collaboration and the experience of the installation operate to offer an account of how affective diagrams become emphatically embodied experiences.

1. Intimate Transactions

"Listen carefully. Every collaborator who enters our orbit brings with him or her a world more strange and complex than any we could ever hope to imagine. By listening to the details and the subtlety of their needs, desires, or ambitions, we fold their world onto our own. Neither party will ever be the same."¹

1. Mau (2000), p. 90.

When we were developing *Skins of Intimate Distance* I became aware of the Transmute Collective (Keith Armstrong, Lisa O'Neil and Guy Webster) and their early version of an interactive piece titled *Intimate Transactions*. An email exchange in October 2003 between myself and Keith Armstrong led to a joint proposal for a collaborative project through the auspices of the Australasian Centre for Interaction Design (ACID). In 2004 I approached Inger Mewburn, who had by then moved on from the graduate certificate to a masters, to participate in this project as part of her research, which I was supervising. We did initially play with the idea of creating an entirely new work, but it quickly became clear that the wisest move was to focus on input into the next phase of development of the existing *Intimate Transactions* piece. Keith was keen to draw on our exploration of tactility and haptics in the relations between intimacy and distance. Inger discussed some ideas she had played with regarding adapting electronic Braille reader displays into a haptic device. This seemed a good place to start.

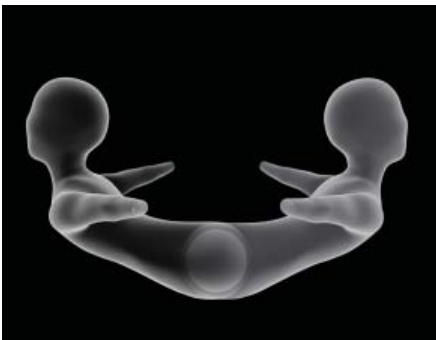
Intimate Transactions is based around a game in which the player can enter into an internal space within 'creatures' in the game, collecting objects from inside them. The more you take from the creatures, the slower, more viscous and 'dead' the movements within the game become. This viscosity is registered through sound, speed of movement and visual



9.01 Intimate Transactions main screen image. Two avatars can be seen wandering through the game, amidst the five creatures.

cues. In order to 'free-up' the game world again, the objects have to be given back. This can only happen by literally joining forces with another player (playing from another geographic location), linking up avatars and releasing the captured objects back to their creatures. When we stepped in, its capacity to operate as a multi-user game was in development.

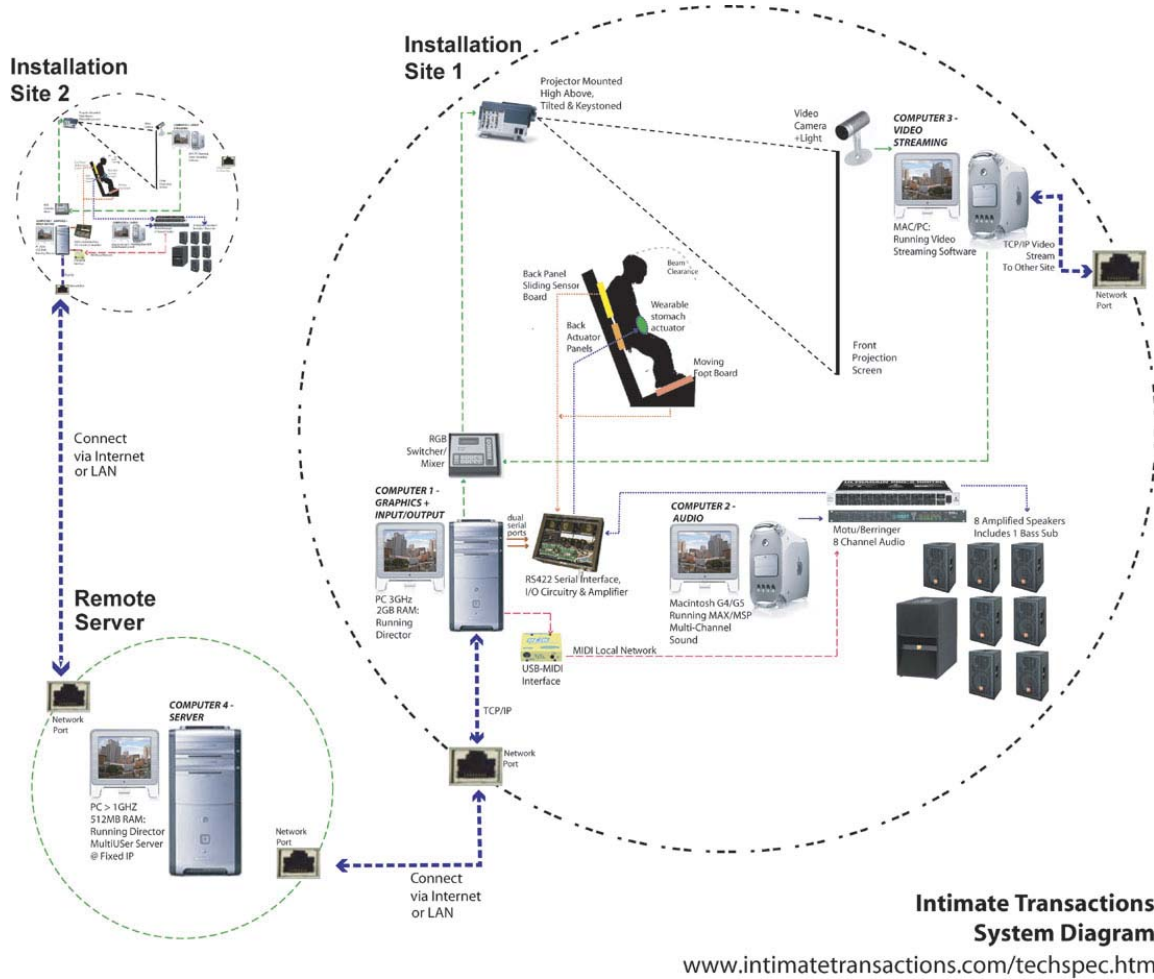
This interactive work involves an overtly embodied engagement on the part of the player. A body shelf interface shifted interactive operations out of the finger click into a dance. A player is required to direct the movements and actions of their avatar with the bends and twists of their body. This coupling of body and avatar is then coupled again - at least potentially - in a dance with another body-avatar: two glowing objects that glide across a screen, leaping out and diving into the crevices of networked spaces. Each avatar is tied to gyrating players that remain invisible to one another, like two puppeteers on different sides of a screen.



9.02 Intimate Transactions: two avatars co-joined (Stuart Lawson).

An aspect of this phase of development was the design and construction of two new matching shelves that could be transported easily around the world. Our job was to amplify affectivity or the feeling of presence through adding a haptic feedback layer to *Intimate Transactions* such that, when it did attain its multi-user networked goals, contact with the other would be augmented by some kind of physically registered feedback. The dance that was structurally embedded in the work meant that the ground of engagement with the piece was already coiled through embodied gestures. Our aim was to deepen the sense of touch in moments of contact with both game elements and other players. For us, from our architectural perspective, we were ushering a sensory density or temporally defined architecture into a landscape of gestures. I imagined the vibrational bursts as sensorial structures (that inhabit bodies rather than bodies inhabiting them), spatially located in a landscape whose contours were constantly being remapped in the relations between activity on the screen and movements of the body.

When Inger and I eventually turned to write about this collaboration for a chapter in a book dedicated to the project, we came to value some of those challenges that we might usually rather forget once the process is over: all those obstacles and tensions that seemed to complicate the ease of passage towards desired outcomes. An issue that had loomed strangely large in our memory of the collaboration was that a great deal of laughter saved us from frequent clutches of frustration. As it turns out, these challenges and the echo of laughter neatly dovetail into a major



9.03 System Diagram of Intimate Transactions with haptic system and multi-user capacity.



9.04 Lisa O'Neil testing the new Intimate Transactions body shelf. Photo by Keith Armstrong.



9.05 Intimate Transactions at Kickarts, Cairns. Player collecting objects inside one of the creatures (player reflected on screen).

defining problem that this project as a whole grappled with. As we saw it, the general research problem can be summarised as: *the difficulty of forming a sense of shared experience amidst the undeniable difference between us.*

This had a great deal of relevance to the little defining statement I had laid out for 'Skins of Intimate Distance,' which went as follows:

skin is a substance of expression

intimacy is shared transformation

distance occurs through positioning

Skins of Intimate Distance is research into the substance of elusively shared positioning.

Our experience of the *Intimate Transactions* collaboration took the issue of 'elusively shared positioning' into a new territory, generating some clarifying realisations.

2. The Threads of Design

In the initial phase of development Inger acted as a kind of energetic provocateur: throwing up concrete ideas, one after the other, for the crowd of collaborators to chew over and develop. Obviously, many of these ideas fell by the wayside but they reveal something about our predilections and the background threads that shaped the haptic system that we went on to develop. Inger was largely responsible for these early ideas and the following account of them, as well as the subsequent two episodes, has been adapted from the essay we co-wrote.²

2. Ednie-Brown, Mewburn (2006).

The first suggestion was to incorporate a modified, refreshable, digital Braille reader into the bodyshef. Such Braille devices are composed of linear arrays of small, movable pins that configure themselves in response to text information from the screen. We proposed adapting this device to produce dynamically forming pin patterns that would press into the skin of players. The abstract nature of the patterns, and their capacity to generate an enormous palette of differently felt 'activation contours' were the main strengths of this suggestion. However, existing Braille devices turned out to have a very low resolution and building our own would have been both time-consuming and expensive.

The next proposal involved the use of hot and cold water to produce dynamically differentiated zones of warmth and coolness against the players' bodies. Perhaps a pair of colourful, bubbly fish tanks would act as the water reservoirs and the water would run through a series of tubes embedded, but still visible, within the bodyshef. The mechanics of this design afforded the possibility of playing up certain aspects of the

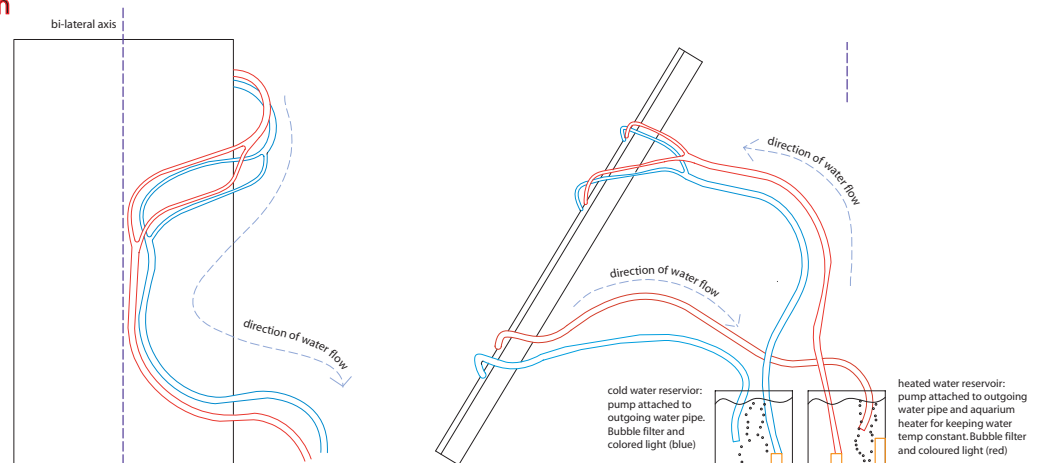
Responsive Heating System

Water reticulation consists of commercially available plastic irrigation tubing and pumps. Washing machine solenoids switch water flow input between warm/cold.

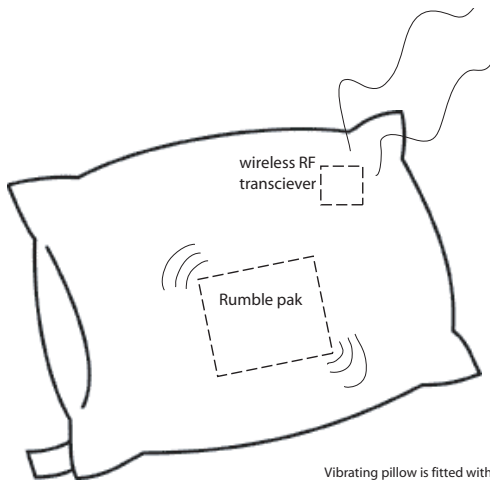
Incoming water tube splits from a single input tube to run between motion sensor inputs.

Tubes are notched into foam in order to be visible to the user but physically separated from movable sensor array.

Activated by events in the visual environment. Water is pumped in short bursts that will shoot bi-lateral warm/cold currents over shoulders and down the back of the user



9.06 Diagram of hot + cold water reticulation system idea. Designed and drawn by Inger Mewburn.



9.07 Quiver pillow idea diagram. Designed and drawn by Inger Mewburn.



9.08 The vibration actuator removed from a 'rumble pack'. Photographed next to mobile phone.

experience of the technology, such as the hissing of water as it was pumped through the tubes. There were some technical hurdles with this proposal but the main attractions for us were the quite visceral bodily associations of the fluid running through the pipes and the explicit physicality inherent in temperature changes. In relation to the project's aspirations towards providing a sense of intimacy, producing dynamic, bodily warmth through the bodyshef seemed qualitatively strong. Outfitting the bodyshef in this way would have turned it into something akin to a responsive hot water blanket; bringing a sensual, living quality to the interface.

The subsequent idea of a wireless, vibrating pillow drew upon similar associations with intimacy and the bed. Here we envisioned players positioning the pillow on any part of their body to receive its touch. The incorporation of vibration would enable us to build upon our prior research with vibration-based interactivity: specifically Boo Chapple's 'Close for Comfort'³ piece and my previous research for 'The Shower', that will be discussed in Act 10. Off-the-shelf 'rumble packs' could be used to create the vibrations. Cheap and easy to modify, they offer a good range of differentiation within the vibrations themselves. We liked the idea of the fleshy bulk and cosy comfort of the pillow. The Transmute Collective thought that the simplicity of the interface might be compromised by moving the pillow about. Nonetheless, the potential of the vibrations seemed clear to us all and this became the favoured approach.

We settled on developing a vibratory system that would be embedded both within the bodyshef and within a garment to be worn by the players. This approach incorporated various aspects of the previous ideas: the dynamic patterning of the pin array, and the contouring of responsive feedback through soft bodily closeness at work in the pillow and 'hot water blanket'. Vibrations offer a form of tactility that can be contoured and

3. This project was part of Skins of Intimate Distance and is documented at <http://corpuselectica.net/closeforcomfort.html>



9.09 Inger Mewburn tracing the shape of my buttocks against the wall at SIAL, for the design of the spreader plates. 9.10 Paper stencil of the spreader plate shape and dimensions.



9.11 CAD drawing of new shelf assembly with spreader plates incorporated. Image Steven Curran.

embedded with texture through modulations (such as frequency, intensity, rhythm, and texture) with relative technical ease. The capacity to embed qualitative difference into the tactile feedback was of great importance to our approach.

The buttocks and the stomach were identified as the two bodily regions through which the players would feel the vibrations. These are the two fulcrums through which the body moves as it negotiates the bodyshef interface.

The buttocks are the site of relatively continuous contact with the bodyshef as well as being a region of the body that is highly sensitive to intimate touch. To incorporate vibrations that would stimulate the buttocks, a vibrating actuator was attached to each of two 'spreader plates' that were built into the shelf, one for each cheek of the buttock. These became active within the 'meeting space' of the *Intimate Transactions* game, when the avatars of each player locked together into joint movement. As each player attempted to direct this shared avatar, by moving their backs from side to side against the sensors in the bodyshef, this generated data related to their directional 'push.' We used this data to generate the vibrations in the two buttock plates, such that each player could feel the directional 'push' of the other.

The design of the *Intimate Transactions* body interface involves a choreography of movement that revolves around the stomach. The stomach is a central hinge through which the body curls as the back is pressed onto the shelf and lifted away, in moving from one game space to another.⁴ Importantly, the stomach is also a very sensitive part of the body. The garment, worn around the neck, fastened around the waist and held against the stomach, was designed to house another vibrating actuator.

4. This was developed through Lisa O'Neill's dance practice, which deals with energy in the stomach and through the legs.



9.12 The five Intimate Transactions creatures with avatar in the top left hand corner (by Stuart Lawson).

These vibrations were related to contact with the various characters in the game space, where vibrations would be activated every time the characters are 'touched' by the movement of the player's avatar across their image. These characters, in the form of creatures, had been descriptively named 'conflict', 'insatiability', 'torment', 'permanence' and 'change'. We assigned differently contoured vibrations to play through the garment for each of the resident characters, attempting to approximate the 'feeling' of these names through the way the vibrations were contoured. This would give each character a unique 'signature' or activation contour sketched through a rhythmic pattern of amplitude and frequency modulations. Furthermore, the strength, or loudness, of each character's vibration signature was affected by the global state of 'viscosity' in the game, linking the vitality of the creature with the state of the environment. In this way, we hoped that players would – through their stomachs – 'feel' a sense of the character with which they made contact, as well as the 'state' of the environment.

3. On Not Being Cool: sensibility and the vibrating pink lipped garment

From the beginning, the geographical distance between the two teams made the collaborative process difficult. Most of the action was in Brisbane, some 1600 kilometres away, and always seemed hard to access despite the plethora of communications technologies at our disposal. And then, both groups had their histories: their own, mostly unspoken, internal dynamics and shared assumptions. Each group had almost no way of working out how the other 'ticked' because we rarely met.

As is usually the case, our predilections and silent preconceptions, as well as those of the Transmute Collective, initially operated more implicitly than explicitly. Each proposal in the catalogue of early versions was left behind for a range of reasons: some pragmatic and technical, others more to do with sensibility. Sensibility was always the least explicit contention, probably because it is harder to account for let alone admit to. But sensibility was a very real and extremely active tension in this collaboration. Our soft, warm, pink, bodily predilections did not glide well into the 'cool' and stylish palette of the existing *Intimate Transactions* piece.

These differences in sensibility became most explicit in the process of designing the garment to house the stomach actuator. We commissioned the assistance of Naomi Raggatt, a recent fashion design graduate from RMIT who had been involved in the *Skins of Intimate Distance* project, to help design it. The design constraints on this piece of clothing were formidable. It had to house the electronics securely, be adjustable to many different body sizes, be resistant to sweat and body odour, be attached and detached within 20 seconds, and allow people to easily mount and remove themselves from the bodyshef. Nonetheless, these issues were resolved relatively easily. The bigger difficulty lay in the hotly contested issue of the appearance of the garment. We were always very conscious of, and insistent that, the most important aesthetic consideration was the garment's tactile qualities. Part of Naomi's brief was to find materials that were not only robust but felt soft and skin-like. We wanted to push, as far as we could, the sense that the garment was a bodily prosthetic. So while we openly admitted that if we had free reign, it would probably be very pink, fleshy and possibly hairy, we weren't too bothered about restraining ourselves in the direction of the cool toned, functionalist minimalism already established in the visual aesthetic of *Intimate Transactions*. The garment's primary role, as I had repeatedly insisted, was to be felt rather than looked at.



9.13 Naomi Raggatt working on one of the early prototypes for the haptic device garment.



9.14 Early prototype of the wearable device.
 9.15 First prototype sent to the Transmute Collective. Worn by Lisa O'Neil.

But our insistence on the amplification of tactile dimensions nevertheless produced problems. After we had mocked up the first prototype, we noticed that when the vibrations started, people often put their hand on the front of the actuator, as if to feel it from both sides. For us, this meant that the tactile qualities of the front of the garment was important. During the developmental process I had found an elastic frisby product made of a rubbery material called 'hyperflex'. This very elastic, stretchy material has an extremely soft texture likened by many to the delicate skin of lips and genitals. Responses to the touching this material were almost always quite extreme. Some would recoil while others would delight in it. Whichever way, this material was highly affective. In a desire to afford a strong tactile affectivity into the garment, we worked the 'hyperflex' frisby into the design which happened to fit very well onto the circular vibration actuator. We used a top circle of leather through which to sew it into the garment. Beyond this black leather, a circular flap of hyperflex stuck out for the enjoyment of a hand placed onto the front of the garment.

When we sent the first prototype to The Transmute Collective in Queensland, they were not happy. Some tense email exchanges and telephone conversations ensued. Relevant extracts from their email response were:

"We think that the wearable is really whimsical and the item as it stands would work really well in some contexts - however these are our feelings with regard to showing it with this particular work, which has quite a different, strong aesthetic - as you can see from the design of the shelf and the graphics ... the pink circle got a strong reaction which is good - some ppl dont like to touch it - everyone finds it texturally interesting - however in this form, standing up it has distinct sexual nature to it which we felt wasn't appropriate to this project context."⁵

5. Keith Armstrong, email to Pia Ednie-Brown, Inger Mewburn, Naomi Raggatt, (cc - Guy Webster, Gavin Winter), January 21, 2005 9.33 PM.

The sexual associations afforded to the garment came in different forms. In a telephone conversation we were told that the males of the group thought it looked like a bottom (an asshole?) and the female saw vagina lips. I saw a possible association with a breast and with the feel of genital skin, but an asshole had certainly not occurred to me. In any case, and to our great amusement, we seemed to have covered associations to all the more sensitive body parts.

Not only was it too bodily for them, it was too colourful. When we sent them some images earlier that month, they asked us to play down the splash of colour in order to, "match the body shelf aesthetic (grey aluminium and charcoal neoprene/backrests/footboard)." They suggested

that, "The design [of the garment] needs to be in greyscale -- this will also match the visuals and give a svelte, stylish look."⁶ However, the soft pink was the least garish colour of the range of frisbies and to our taste, the most appropriate.

The ground of difference between us had opened up and now rang with vibrant tension. Negotiating this disagreement posed difficulties. Even if we risked being a little clumsy and crude, especially in relation to the smooth, cool of *Intimate Transactions*, we felt that making 'cool' with this garment worked against its efficacy. The aesthetic difference it enacted – an aesthetic grounded in touch – seemed productively resonant. As we saw it, it ushered tactility and qualities of intimacy into the otherwise hard, grey palette of the overall *Intimate Transactions* environment. At one point, Inger suggested that our 'artistic differences' were becoming a bit like 'Barbarella' vs '2001.' Our sensibility was obviously 'Barbarella': colourful, sensual, playful and a bit clumsy. The Transmute Collective was closer to '2001': mysterious, serious, slightly spooky and highly composed.

We had to laugh.

We also had to hold our ground. The pink fleshy rim was not removed, nor was it recoloured.

We were certainly not the first to use a Barbarella vs 2001 comparison to make a point or to have a laugh. As discussed in Act 7, Reyner Banham did it in his 1968 essay 'Triumph of Software'. This sensibility clash can be seen as indicative of a broader set of tendencies. Banham alludes to a shared history or common background in less-than-fully-serious artefacts, which he embraces in the tone of his essay:

"Both Barbarella and its original French cartoon strip form, and Archigram's plug-in city project are half-joke European intellectual derivatives from the basic US pulp SF. Both stand in a tradition that runs back visually through the comics, and verbally through texts like Isaac Asimov's *Caves of Steel* (now in Panther paperback; don't just sit there, go and buy it!)."⁷

6. Email from Keith Armstrong, Lisa O'Neil and Guy Webster to Pia Ednie-Brown, Inger Mewburn, Naomi Raggatt, (cc - Guy Webster, Gavin Winter), January 6, 2005 6:10 pm.

7. Banham (1968), p. 629.

Intimate Transactions is a serious piece of work, in the sense that it holds importance within a new media art milieu. It was awarded, for instance, an Honorary Mention in the Prix Ars Electronica, it toured widely, including being staged at the Institute of Contemporary Arts in London, BIOS in Athens, the National Review of Live Art in Glasgow, the 2006 Brisbane Festival and COCA in Cairns. It continues to tour with showings

planned in China and the USA in 2008. And it had been styled to suit a prestigious life. Their discomfort with our Barbarella-like comportment may well have involved some sense that we were not-being-serious-enough or not 'high-art' enough.

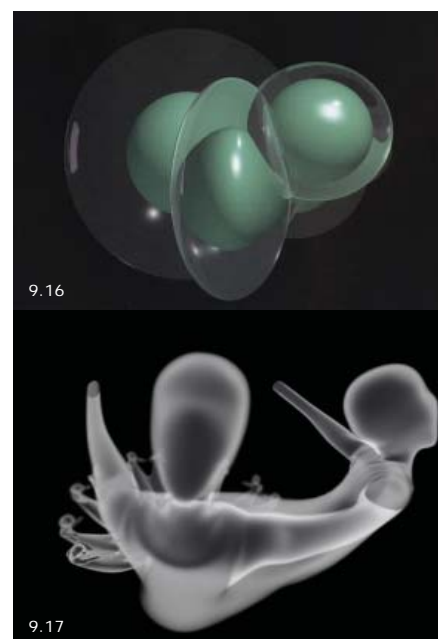
Both the geographic distance and the artistic differences that emerged poignantly highlighted this constant issue of never quite understanding each other. In retrospect, we wonder if this issue of distance acted to strengthen our insistence on evoking qualities of sensual vibrancy, embodiment, warmth and closeness. We always wanted to bridge the gap we felt between the groups by pushing a sense of embodiment into the picture.

All this led us to perhaps the sweetest realisation of all. There was a deep and poignant irony at play amidst this particular research process. The Transmute Collective and the Liveness Manifold had the same problem to deal with as the general one that *Intimate Transactions* sets up for its two players. Both embodied the difficulty of forming a sense of shared experience when there is so much distance (and difference) between us.

4. Materialising Affective Intensity

The experience of the *Intimate Transactions* piece does not simply involve the particulars of the game, the meeting of avatars, the feeling of the vibrations and one's related movements of the body shelf: these are all involved, along with other factors in the production of an over-all atmosphere, or the feeling of the encompassing environment. As I have discussed and as the images from the piece demonstrate, the general aesthetic can be characterised as smooth, cool and minimalist. There was a noticeable effort to minimise any 'mess' – cords were concealed as much as possible and the staging of the game occurred in a room that was extremely darkened such that the game and one's body, basking in the cool, blue-hued light of the projection, were more-or-less floating in a black surround – much like the digital, translucent forms cast against a black background in the game space itself. Certainly, the darkness of the room was related to some pragmatic issues; it allows the image on the screen to be brighter and more luminous, and any distracting aspect of the actual room in which it occurred was minimised. Nevertheless, the similarities between this set up and Lynn's 'old style of life' (and indeed most image renders in that field of work) are quite striking.

At the ACMI showing, a white line was taped along the floor so that participants could more easily navigate their way through the blackness to the shelf. A comment made to me in passing at the opening night at ACMI was that the body shelf was reminiscent of the electric chair and the tone of the space meant it was like being led to one's execution. This was certainly an over dramatisation, but a sense of threat and looming danger could be one way of provoking an affective intensity that would draw attention to one's embodied affectivity. An active design attention to generating an atmosphere of this nature could be a productively dramatic approach to take. But our impression was that the Transmute Collective had been focussed, understandably, on action in the game and on the shelf and that the environment as a whole was not a subject of such intense attention. For us, in contrast, our desire was (and had been from the start)⁸ for the experience to be held by a more intimate enclosure rather than floating in space like the astronauts in 2001. Something of this nature was discussed as a positive, potential reworking in one of the research sessions during the ACMI showing. The point of our comments at the time was part of our desire to foster and usher a sense of intimacy into the overall sense of piece and the experience of participation. This desire to recast the experience into a closely held, tactile enclosure was yet another *Barbarella* moment (oh, if only we could have made a fur lined spaceship!). It was a desire to



9.16 Greg Lynn, frame from generative animation for the Artists Space Installation (1995).

9.17 *Intimate Transactions* avatars (by Stuart Lawson).

8. As mentioned earlier, prior to beginning work on the haptics for *Intimate Transactions*, we had initially considered creating an entirely new piece rather than developing this existing one. In the early proposals, we had been keen on the creation of a small, intimate space in which remote communication of various kinds could occur.

render the affective intensity of the environment more manifest, material, palpable. If we could design that environment now, I suspect we might start with the question: how can a small inhabitable environment elicit a form of feeling akin to shared laughter? And then, we would laugh.

5. Sensibility, Shame and Affective Intensity

"In shame, a person immediately launches a search that is frantic because the grounding that is sought, a grounding of self in community, is not to be found in any visible place."⁹

9. Katz (1999), p. 323.

Of anyone in the project, it was Zeljko Markov, designer of the body shelf, who had the clearest, cleanest and strictly held sensibility of us all. Markov's individual practice had, in 2003, spent six years focussing on shelves¹⁰: minimalist formal compositions of planes cantilevered from the surface of the wall. In light of this aesthetic manner, it is not surprising that Markov would oppose any move to interrupt the smooth, flat, undifferentiated plane of the shelf - not just in relation to our suggestions that the buttock pads be afforded a tactile articulation rather than be concealed under a continuous rubber surface - but also in response to any surface interruptions or lumpiness from the back sensor area. He wanted, in other words, to make the interface as smooth and transparent as possible.

10. See: <http://www.intimatetransactions.com/zeljko.htm>

By contrast to Markov's exceptionally *clean* line of conduct, our sensibility was perhaps something to blush about. It was lumpy, expressive, bodily and blushing, comically sexual. Did we have no shame? Katz's study of shame offers much to the problem embedded in the question:

"We see in the experience of shame a taken-for-granted, ubiquitous, even ontological demand that the individual make sense of his or her conduct in society, which means shaping his or her behaviour in some coherent relationship to collectively recognised forms; and, further, that the process of making sense be itself disguised aesthetically, i.e. by becoming a seemingly natural, idiosyncratically tailored way of being with others."¹¹

11. Katz (1999), pp. 173-174.

Shameful feelings are not restrained to individual behaviour but operate, primarily, as a collective operation. Collectively, certain things are hidden from view, isolated, undiscussed. The moment that any such thing is revealed as a part of our selves – even if only to ourselves – we struggle with being outcast into places that are forbidden from collective acknowledgement. Shame involves seeing oneself as morally inferior in some way from the standpoint of others wherein we fold that standpoint into ourselves, such that the associated sense of distaste sweeps throughout the whole self.

Just as the need to drink answers to thirst, the need to make sense of our conduct answers to the threat of falling out of the family of collectively recognised forms. Making sense of our conduct and of the world is a process of socialisation. The struggle of this process is largely concealed, made to seem 'natural' or effortless. As such, the nature of that process, or *the way* in which we make sense is hard to openly acknowledge because so much effort has gone into hiding the process, let alone the very contingent nature of it. The way in which we make sense of things significantly affects the nature of any act. Our *ways* of making sense is the process through which sensibility is formed.

To make sense of things is not an effortless enterprise; it involves an active incorporation into social forms. Isn't this document is one such effort: a shaping of acts and thoughts into (something close enough to) a collectively recognised or socially acceptable form? If it falls too close to already-collectively-recognised-forms its potential contribution will be muted, or simply non-existent. If it runs too far away it's potential contribution will be simply unrecognisable. Discursive events are always, to a significant degree, about a striving for active *participation*, sometimes with a particular problem or issue but *always* with a community. We make an individual utterance in order to contribute to, engage with and be part of something bigger.

If Inger and I had no shame, we were perhaps failing to sufficiently tailor our suggestions to the (disjunctive) standpoint of our collaborators or in terms of the sensibility that they clearly adhered to. Our participation in the overall project seemed a little out-of-step. This led to a momentary 'falling out'. But we simply didn't see their sensibility as *necessarily* excluding our own. Our falling did not exactly lead to a sense of shame, but rather to a sense of shamelessness. This became productively revealing.

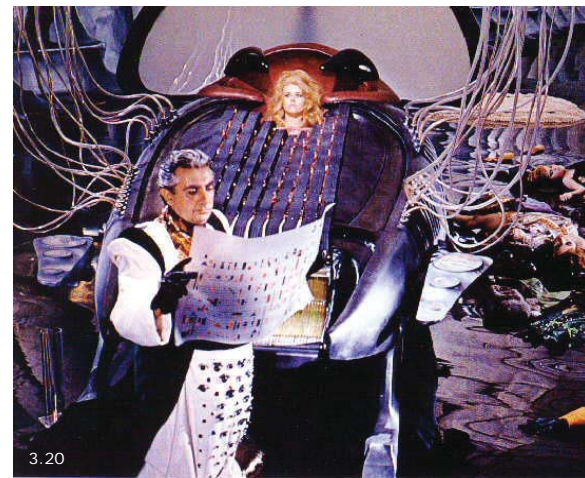
Shame, writes Katz, is interesting for what it reveals: "What is revealed [in shame] is the existence of an abiding mystery, a personally resonant something-that-had-been-hidden-and-must-be-kept-hidden."¹² Equally, the existence of an abiding mystery is revealed in the idea that something is shameful or someone ought to be ashamed. This hidden 'something' lies within the process of making sense, or within that which holds together a sensibility. Katz is suggesting that it becomes a mystery because it is "disguised aesthetically" – masked by an artful composure that gives a sort of 'natural' air to one's way of being. The juxtaposition of *Barbarella* and *2001* rests quite emphatically on apparently discordant aesthetic

12. Katz (1999), p. 150.

sensibilities. This was the case for us when we laughed about the sense of 'good fit' of the analogy with the discordance between us and our collaborators. Banham saw it in a similar fashion. But something more is hidden in the juxtaposition, that took a while for us to realise.

When the primary figure of evil, Durand Durand (Milo O'Shea), in *Barbarella* tries to kill her with the Excessive Machine (a device that induces such heights of ecstasy that it kills its victim) she not only survives it, it does not survive her. As Banham writes: "the insatiability of her flesh burns its wiring and blows its circuits, thus giving O'Shea the best line in the script: 'Have you no shame?'"¹³

13. Banham (1968), p. 630.



9.18 The film includes a long sequence focussed on Barbarella's face as she passes into ecstasy. 9.19 The Excessive machine blows up. 9.20 Duran Duran with the musical score to be played through the Excessive Machine.

The line “have you no shame?”, expresses disgust regarding Barbarella’s ability to embrace affective intensity – of an intensely pleasurable kind – to the degree that it can move within her and her within its movement, without becoming submissive and being too easily impressed *or* attempting to control it through distancing and denial. Barbarella had the power to both affect and be affected. Software triumphs over hardware. Barbarella, it seems, had nothing to hide or, at least, her capacity to embrace and affirm affective intensity was not kept hidden. Her ‘shamelessness’ or the perception that her actions were shameless, revealed something that could not (or should not) be seen from the accusing standpoint.

As Katz discusses, shame arises when we fall out in some way. But the fall out does not necessarily lead to shame. He gives the fall a far more extensive role, being the provocative element that traverses emotional expression: “Falls lead to shame no less regularly than they lead children to crying, burlesque audiences to laughter, and injured parties to anger.”¹⁴ Our fall led to laughter. Perhaps, implicitly, this was a little bad mannered:

14. Katz (1999), p. 173.

“Through the matter of manner, one provides a basis for others to take for granted that there exists a collective ground, independent of the participant’s machinations, for the conduct on which they collaborate. The social order appears to demand, not only that naked self-interests be covered by the substance of conventionally recognizable social roles, but also that each put the self aesthetically at risk of spiritual pretentiousness in order to sustain the identity of others.”¹⁵

15. *Ibid*, p. 174.

The conduct with which we collaborated put ourselves at risk in another way. We didn’t clothe our naked self-interests or our lewd sensibility. It was perhaps a bit naughty and maybe a little juvenile, but amidst the process we realised another way of thinking about – and feeling out – a collective ground.

I have argued earlier that underscoring the effort to articulate principles of composition is an effort to mediate a conflict through articulating a collective ground. I have also argued, in relation to the sensibility clash exemplified by Barbarella and 2001 and Wolfflin’s juxtaposition of the ‘painterly’ and the ‘linear’, that what is at stake is different ways of unfolding or recasting forms of feeling into affective forms. The value of these stylistic or sensibility clashes lies in generating an attention to a common ground in the collective field of affective relations. We can also turn this general principle into the clash between the vague and complex nature

of emergent phenomena and the simplicity and exactitude of the micro-relations from which they arose. Theories of emergence and composition offer conceptual and pragmatic armatures that amount to a mould of some kind (and with varying degrees of flexibility and rigidity), which will enable an internal resonance between disparate participants, linking them together while accepting their differences. Emergence seems like a form of magic (or God) when this affective ground falls out of sight.

6. Laughter as realisation of the problem

"The valuable features of shame are more visible when we ask, what is necessary *so that people may act together*. Then we can appreciate that manner, style, grace, and other ways of acting so that one's role appears to emanate naturally as if through some kind of transcendent guidance, are always difficult, always contingent, but always necessary elements in the process of sustaining the identities of the others with whom we interact."¹⁶

16. Katz (1999) pp. 173-174.

In everyday life, the need often arises to smooth over cracks in the fragilities of social cohesion: we are compelled to maintain ease in social relations. In his study on laughter, Katz points to Arthur Koestler's argument that humour is, "in its essence a simultaneous orientation to two or more inconsistent perspectives."¹⁷ But, as Katz goes on to point out, this is only part of the story. In addition to the co-presence of inconsistencies he suggests that to provoke laughter, "a formal inconsistency of perspectives must become practically untenable."¹⁸ In other words, there has to be a compulsion to integrate or exert a common interest. The *Intimate Transactions* collaboration brought forward problems of apparently incompatible perspectives, or sensibilities. Laughter brings incompatibilities together through a desire or need to simultaneously *realise and acknowledge* both that incompatibility and another level of connection. As Katz summarises:

17. quoted in Katz (1999), p. 104.

18. Katz (1999) p. 105.

"Laughter does not deny the difficulty of reconciling personal standpoints; it joyfully finesses the issue by tapping a visible corporeal bond ... to insist on presumptively shared reality."¹⁹

19. Ibid, pp. 318-319.

Laughter does not obfuscate the extreme difficulty and frequent absurdity of our attempts to pretend that we act together easily. It simply acts as a bridge while leaving the gaps open.

When *Intimate Transactions* was staged between the Australian Centre for the Moving Image (ACMI) in Melbourne and The Creative Industries Precinct at QUT (Queensland) in April 2005, several research sessions were held in which particular participants played the game, followed by a video link discussion session involving both the players and ourselves. In addition to this, Inger and I sat hidden in the darkness, watching players engage with the piece as they came in, one by one. We noticed that people often laughed at the moment when the avatars of the two players finally made contact and connected. When connection was really felt, people vibrated of their own accord: they laughed in an eruptive recognition of contact

that was realised despite the distance between them. They expressed the incompatibility of simultaneously experiencing intimate contact across actual and qualitative distance through their own vibratory variation. What seemed so delightful to us is that they rendered the vibrations of the actuators virtually redundant – all the better because the Transmute Collective had turned the initial intensity of the vibrations down so low that most people barely felt them.²⁰ Our response (of inserting vibration into the work) to the broad research problem met neatly with their embodied response to the felt *realisation* of that problem.

20. Although this was, I believe, corrected at later showings.

Every fold of this research project has seemed suspended in the particular problem of meeting amidst the vibrations of difference and distance. This is precisely what laughing can achieve. Laughter not only rescued us all from bouts of frustration and awkward moments, it prodded at precisely the problem we were working with: that intimate connections occur not only *despite* the gaps we have to bridge, but *because* of them.

As such, these observations on the operations of laughter connect back to earlier suggestions where an appeal to emergence and principles of composition points to some kind of metastable whole that functions to rejoin divergence through a shared, in principle ground. The rhythms of laughter, in its embodied expression, become a kindred act, happily touching on Wölfflin's idea that the rate of respiration relates to proportion. Rather than a mathematical or geometric proportional system being the compositional hinge that connects divergent styles, here the respiratory vibrations of laughter become a more emergent proportional connector. A sense of unity is generated that does not transcend or obfuscate differences, but acknowledges them. This sense of unity is a movement that arises through, and joyfully retains, incompatibility.

It must also be acknowledged that laughter is not always such a positive force. It does not, in itself, necessarily initiate happy moments of shared experience. It can instead be derisive; where the act of acknowledging a difference or incompatible points of view is also one of mocking, pushing away, alienating, or shaming. What becomes clear here is that laughter forges social or formal arrangements. Derisive laughter enacts a standing away and a pushing of something 'over there', while asserting that this something is part of a particular viewpoint. Laughing together produces a collective, shared body through which divergent standpoints, styles and sensibilities can resonate together.

7. Ethico-aesthetic know-how and laughter

Laughter involves problems of value and ethics. Addressing a related set of issues in the terrain of scientific research, Isabelle Stengers writes:

21. Stengers (2000), p. 41.

"Our sciences no longer make us laugh. Any dreams they might provoke have lost their speculative quality."²¹

What is the link between laughter and speculative quality? A speculative act is a throwing open, an offering that is risky because the armatures are unstable and you can't be sure where it will go. Laughter unsettles the postures of the unquestioning and the structurally serious: the stance of those who cannot admit to the possibility of the Emperor's naked body. The maintenance of forms of authority often requires that the risky, truly speculative act is withheld. As Stenger's reminds us, denunciation is no better, but despite the lack of certainty and the risk always taken in this regard, it is productive to learn how to laugh because:

22. Ibid, p. 44.

"The laughter of someone supposed to be impressed always complicates the life of power. And power is always lurking behind objectivity or rationality when these are arguments used by authority."²²

Laughing allows something to move through you without it taking hold or inscribing marks on submissive flesh: without being too easily impressed. Barbarella's multiply orgasmic non-submission to the Excessive Machine did something similar. The bodily shudders of laughter and orgasmic pleasure are at once an all-over, over-all embrace of a situation. When we laugh it's often because what generated the humour is unthinkable or uncomfortable to admit: if we stop to think, we often have a hard time articulating or explaining precisely what made it funny (without, at least, explaining the humour away). But we do know one thing: we have been tickled – we have felt a provocation and expressed its touch. If we laugh together, we fabricate a common sensual body. We forge an *opportunity* to feel the unthinkable and/or rethink the unspeakable, together. This is *potentially* generative and tantamount to re-creating interest. It can unsettle fixed positions and open the door to an affectionate embrace of collectively held conditions, both despite and because of the disparity this involves. As Walter Benjamin wrote:

23. Benjamin (1978) p. 236.

"there is no better start for thinking than laughter. And in particular, convulsion of the diaphragm usually provides better opportunities for thought than convulsion of the soul."²³

But perhaps Sanford Kwinter summed it all up best of all and in a way that loops back to Stengers, speculation and to an ethics he describes as a 'cultivation of life':

"a commitment to the *cultivation of life* is a practice whose value far transcends the pettiness of individual products; it represents an heroic enlargement of work to an ethics, and a commitment to a human social ecology that far exceeds the usual posture of voluntary submission to the law of markets. No one knows where such an experiment will go, and it is one certainly rife with traps and dead ends. What is most beautiful about it, in fact, might well be its potential to magnify risk. To bring design into such close proximity to life is to make laughter a necessary component of work and action. For only laughter makes risk tolerable."²⁴

24. Kwinter (2000), p. 37.

If laughter makes the cultivation of life and its risks tolerable, this is surely because – both despite and because of the appearance of intolerable incompatibilities – it is a moment of resonance and vitality emanating from the effort to generate a binding, affectionate sympathy that will cushion the falls. This, as I have argued, has been a motivation behind articulating new theories of composition.



8. Embodying Affective Diagrams

Laughter is a powerful force: it can pull people together as well as push people out, alienating and isolating them. But the role of this discussion on laughter is not to afford the act of laughing some kind of special status for experimental practice, as vital an ingredient it may be. Rather, laughter has been explored here because it offers an especially clear *embodiment* of affective diagrams.

As bodies open up, shudder and vibrate, they literally embody a reassembling and realignment of the affective contours of the given situation, in a way that bridges some kind of rupture or a falling apart of the taken-for-granted landscape on which actions otherwise silently rest. Laughter is an *emphatically* embodied moment of affective diagramming in the sense that it articulates an intensification and highly embodied condensation of the dynamic qualities of relation. Relations are intensified because something we take for granted has been thrown off balance, wherein we search for something to hold on to and to hold things together such that social cohesion doesn't fall apart. The coincidence of poignant incompatibilities, putting at risk the assumptions that delicately condition the possibility of acting-together, come to resonate through laughter, even in instances where this might involve a group cohering at the expense or expulsion of another. This resonance operates as an abstract but expressly embodied texturing of the moment. As Katz puts it: "A kind of metamorphosis occurs in which the self goes into a new container or takes on a temporary flesh for the passage to an altered state of social being."²⁵

25. Katz (1999), p. 343.

Moving from drawings to buildings is one passage of metamorphosis in which the affective diagram, as a 'temporary flesh', can 'carry' qualities of relation across the passage from one state to another. The affective diagram, in its role as a 'new container' or a 'temporary flesh' is a flexible mould – and, as such, conditions the possibility for a resonance between drawings and buildings to occur.

In the emphasis I have given to the posture and modes of attention of the author/designer there is an insistence upon the embodied reality of any such affective diagram. Rather than being purely figments of a disembodied mind or a transcendent imagination, affective diagrams are as corporeal as they are fleeting. Fleeting, elusive things are easily lost unless they can be re-accessed, or embedded in know-how and, as such, operate as an aspect of our embodied actions.

Affective diagrams are, just like Massumi's biogram: "lived diagrams based on already lived experience, revived to orient further experience."²⁶ They are diagrammatic, experiential and navigational feedback loops that can be seen as 'images' offering compositional guidance. As quoted earlier from Katz: "We rest our subjectivity on rhythmic sensibilities, feelings for directions, and visions of unfolding patterns, allowing aesthetics to guide us."²⁷

26. Massumi (2002a), pp. 186-7.

27. Katz, Jack (1988), p. 5.

In the context of this research, the *Intimate Transactions* project provided material through which to emphatically draw forward the always embodied reality of affective diagrams. I was always aware that this project acted to extend my research into the role of embodiment within relations experienced across (or despite of) a lack of physical immediacy (or, of virtuality and affect), that had framed the *Skins of Intimate Distance* event. In both, digital communication technologies were key issues and I knew, theoretically,²⁸ that the understanding of 'the virtual', so commonly used to *describe* the nature of these technologies, was a highly reductive form of the virtual as understood more philosophically by those such as Massumi and Bergson. I also felt, along with Massumi and others,²⁹ that this reduction was at the core of the mild hysteria in cultural theory, still quite active at the time, regarding problems of disembodiment in 'virtual worlds.' These quite new technologies played a crucial part in raising questions about what constitutes 'bodies' and embodiment. The need to address these questions was an important aspect of my overall research project. However, I didn't expect to find something valuable in the most mundane actualities of practice: in the difficulties of collaborations and in related acts of laughter.

28. As developed in Ednie-Brown (1999).

29. see Massumi (1998) and Beckman (1998) was a key collection of essays for me in addressing these issues. It contains two essays by Massumi that were later developed in Massumi's *Parables for the Virtual* (2002).

In a sense, this loops back to the tactical approach in the research act of making *The Animate Casts*, where I reached for very non-digital processes of making in order to explore the qualitative relations at work in the generative techniques involving digital animation, such as Lynn's digital diagrams and all the other forms flexing their way seductively across black backgrounds. As I said in the introduction, after the last decade of research in 'digital design', it is clear that digital technology in itself is not the primary issue, but simply part of an equation. By turning to very embodied, material acts to explore qualities of relation threaded through events that are significantly shaped by digital technologies, we can more easily discern patterns of behavioural relations that are not media-bound or technologi-

cally specific. Rather, they are part of the broader, textured complex of relations that affect and are affected by these new technologies. Certainly, between the problems of disjunction set up by digital communication technologies and the implicit disjunction at work in the simple act of laughter, we found a sympathetic vibration. And at the core of those vibrations was vibration itself: bodies vibrating mechanically or through social eruption. Each one of those vibrations was contoured slightly differently. Despite (and because of) their differences, they resonated, generating a form of feeling. These variable patterns of relation are very 'micro' acts, like little nests or assemblages that together constitute a more 'macro' situational complex: an overall form of feeling. Likeness gathers, grows and spreads, binding action through difference.

In the project to follow, a diagrammatically affective compositional guide, and the way it became imbricated in the micro-relations that constituted it, take on a more 'environmental' or architectural spin.

Act 10. Affective Intensity and the Ethics of Engagement

Act 10 discusses another collaborative project involving the conception, development and production of an interactive installation called *The Shower*. Again there are resonances between the tensions in the collaborative process, the affective tone of the work and the challenges of engaging with the piece. Through this project, an embodied manifestation of the affective diagram can be seen to have played a crucial role in generating the design and I explore how this manifested itself in a number of dimensions of the work. This project operates to draw together all the primary issues explored through the previous Acts and projects and, I argue, operates to bring attention to ethico-aesthetic know-how through the challenges it presents to those who engage with it.

1. Affective Intensity

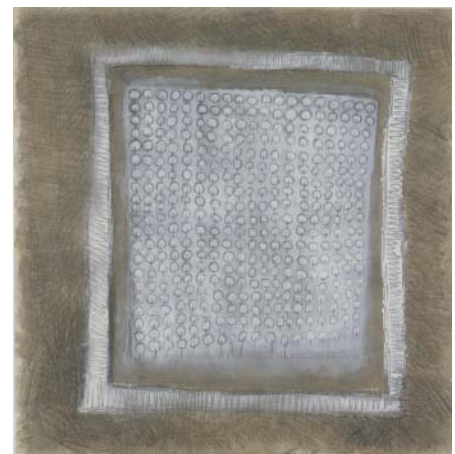
1.1 The Shower

plenum **A. n. 1.a.** Physics. A space completely filled with matter; spec. the whole of space regarded as being so filled. Contrasted with VACUUM n. 2a. **b.** Chiefly *literary*. In extended use: a condition of fullness or great quantity; a place filled with something.

2. A full assembly; a meeting of a legislative body, conference, association, etc., at which all the members are expected to be present. Originally used of meetings of one of the legislative chambers of the Swedish parliament. During the 20th cent. the term was particularly associated with communist parties, esp. in the Soviet Union.

3. A plenum chamber or space.

B. adj. (*attrib.*). Relating to or designating a system of ventilation, air-conditioning, etc., in which fresh or conditioned air is forced into a building at various points and drives out the stale air, esp. in *plenum method*, *plenum system*.¹



10.01 Eva Hesse, Untitled (1968).

1. Oxford English Dictionary Online, Oxford University Press, 2007.



10.02 Rachel Whiteread, *Ghost* (1990). Whiteread's casts became something of a sculptural equivalent to the way I thought about Mowson's idea of the 'sound mass', where he produced something akin to the experience of inhabiting her casts.

2. See OED definitions above.

The Shower is an immersive, sonic-architectural environment produced in collaboration with artist Bruce Mowson and with the assistance of a group of architecture students. It's development spanned from late 2002 through to late 2005, with the most intensive period being the first nine months of 2003.

The Shower project was initiated by Mowson through a proposal to Experimenta Media Arts, a Melbourne based contemporary arts organization, for their 2003 *House of Tomorrow* exhibition. His initial proposal had been accepted for the second round of developed proposals. He was interested in constructing a small space, under the guise of a futuristic shower, designed to be a space in which one was 'showered' by a sound composition of his making. He approached SIAL looking for a collaborator in designing and building this 'shower' cubicle. I had met Bruce once before and discussed his work with him. While I hadn't experienced his sound pieces directly, I was familiar with his concern for the production of sound as a 'mass' or static sound-matter. Having agreed to collaborate, he and I worked on a second proposal, which was submitted in February 2003, launching an intensely challenging process.

The Shower was produced to be a plenum: a space intensively filled with matter and/or a condition of fullness or great quantity.² It is a skin toned, skin textured, latex enclosure, about the size of a small shower cubicle. A latex skin is suspended between a rectangular ceiling and an oval shaped floor area. It has speakers, lights and a ventilation fan in its ceiling and a pressure sensor under its spongy flooring. An encounter with it goes something like this: you enter through a slit in the latex skin. Stepping inside, the pressure of your foot on a sensor activates a sound piece and its associated vibrations. The sound was constructed to produce a 'mass' or thickness through the perpetual repetition of the same sound loop; one is showered into a tightly knitted vibratory field. Once inside, the fan sucks the latex taut around the body. There is a moment before realising that the latex skin is pulling in around you, enacting a kind of vacuum pack on the body. This tight but flexible membrane can be pushed around in various ways such that both the shape and acoustics of the space can be actively manipulated. One can play this environment as an instrument.

The Shower has an integrative role amidst my projects, folding together key configurations of the other projects discussed so far. It was in this project that the fur fields found, at last, an explicit, diagrammatic role.





10.03 Inside the Shower.

As the main physical fabric of the piece is a large latex skin assembled into an inhabitable enclosure, it can be easily likened to the latex moulds of the *Animate Casts*. Rather than plaster, living bodies and a specific sound configuration were poured into this mould. Along these lines, the Shower can be understood to be an experience of immersion within a casting process.

The Shower preceded both *Skins of Intimate Distance* and *Intimate Transactions*, providing the latex skin for the former and informing the emphasis on vibration in the later. As such these later projects were informed by *The Shower*, but they have also enabled me to reflect on it in a way that I couldn't have done without them. Developments of *The Shower* also occurred during and after those two projects, so what was fed into them from *The Shower*, to be retested and transduced, was then fed back. *The Shower* is the fold into and out of which the four other projects discussed here are looped; it can be seen to operate at a developmental hinge of my practice and the final synthesis through which a conceptual figure of design composition, understood in terms of the aesthetics of emergence, is fleshed out. Importantly, engaging with the installation such that it becomes akin to 'playing an instrument' demands, as I will later argue, the development of a poise related to an ethico-aesthetics of emergence.

1.2 Threat, Fear and Claustrophobia

pho-bi-a (fb-)

n.

1. A persistent, abnormal, or irrational fear of a specific thing or situation that compels one to avoid the feared stimulus.

2. A strong fear, dislike, or aversion.

Source: The American Heritage® Stedman's Medical Dictionary



10.04 Images from the famous shower scene of the Hitchcock film, Psycho.

When I first met with Bruce to discuss the project at length, a few things became clear to me regarding the background tone that Bruce had in mind. While his initial proposal was wisely pitched as a fun, pop-slick and somewhat parodic series of three media showers for soaking oneself in an ever increasing flow of information, there was a sharper edge hidden in its quiet sarcasm. We discussed horror movies and murder scenes. Bruce scribbled down 'Sex and Death' as a kind of summation of his sense of where the piece should go. As a kind of flip side of the innocent, cartoon, sparkly clean, comically futuristic Jetson's, the 1960 Hitchcock horror film 'Psycho' became a key association for us very early in the development of *The Shower*, largely in terms of its shower murder scene, brilliantly edited and sound-tracked to screeching violins. For the second, joint proposal I developed a very sketchy depiction of the structure and its interior tactility that was emphatically aiming for a 'bodyness': a semi-bloppy soft and fleshy interior. The proposal incorporated a webcam, such that a person inside the installation would be under surveillance, something that I was quite fascinated with at the time.³ Embodied self-awareness was not sim-

3. This was very much a part of my fascination with the Big Brother phenomenon that influenced the Graduate Certificate program and the development of the Skins of Intimate Distance event. It was also an aspect of the design studio I ran at the same time, 'Omnipresent Architecture' in which students were designing a 'suburb' of houses that in some way re-invented the Big Brother game.

ply about what happened under the skin (of either the persons body or the latex skin) but aimed to incorporate the sense of an expanded, social field of connection, where being watched was also part of one's self-awareness.

The rather cartoony, clunky images I produced for the document employed images from the film, *Psycho*. The cover featured a shot looking up into the shower rose. The image of the heroine with her arm and hand outstretched, reaching for the shower curtain in the throws of death, was blurred and made pink as if in a kind of fog. The shot of her face, pressed dead against the bathroom floor was montaged into an interior shot to illustrate someone listening to sounds beating inside the 'skin' of the interior.

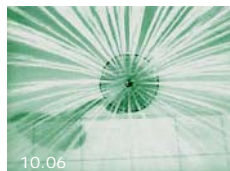
The associations with the fear of the thriller resonate with the sense of something palpably looming. The production of fear involves the invisibility of that which threatens, or significantly unknown dimensions. As Massumi has written, with a more political problem in mind: "A threat is unknowable. If it were known in its specifics, it wouldn't be a threat."⁴

4. Massumi (2005), p. 35.

Bruce intended to develop upon an existing series, called *Static Tones*, in producing the sound piece for the installation. It was not until I experienced *Static Tones* directly that I more fully understood this association with horror and fear. *Static Tones* are electronically composed sound pieces constructed to produce a 'mass' or thickness through the perpetual repetition of the same tiny, 250 millisecond long sound loop.



10.05

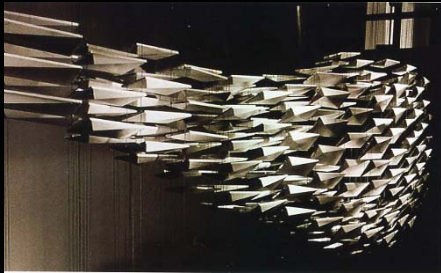


10.06

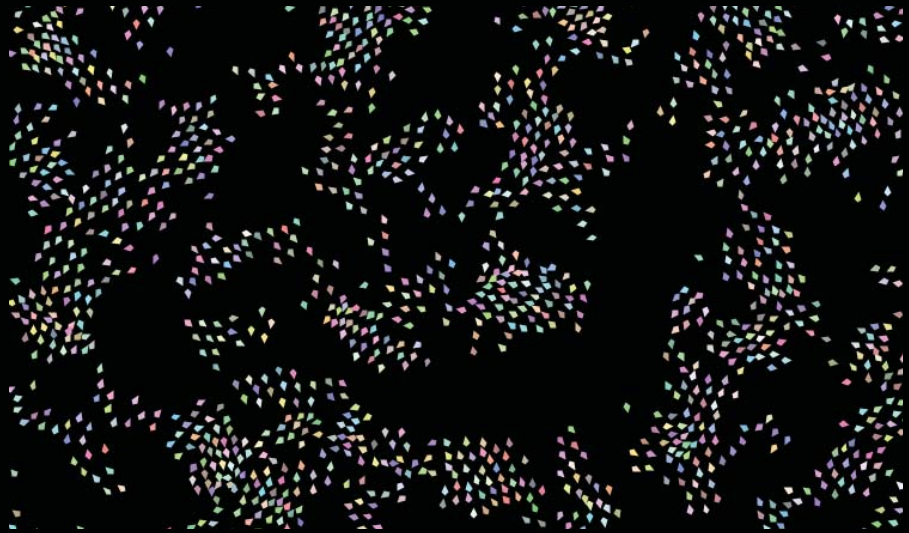


10.07 Image of dead Psycho herion in early conceptual 'sketches'.

10.05 The fog image derived from the Psycho shower scene. 10.06 The Shower rose shot from Psycho.



10.08 Jeff Kipnis's 'School of Fish' display system-sculpture.



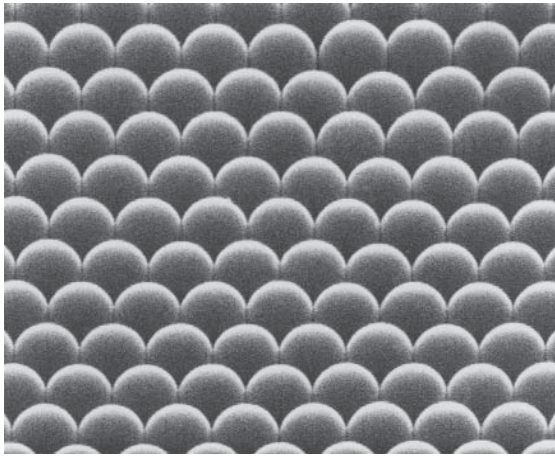
10.09 'Flockers' by MASON software: an implementation of Craig Reynolds' Boids algorithm.

5. Jonathan Podborssek, Jane Caught, Tim Schork and for the pre-production part, Jon Racek.

Once the proposal was accepted and commissioned by Experimenta, I assembled a small seminar of architecture students⁵ to work with us in producing the piece. In one of the first seminar sessions, Bruce took us all into a small sound studio, turned all the lights off so the room was impenetrably black and turned the sound on. The volume level he set was high and we all jumped in our seats in the dark. But it wasn't just the volume that was shocking, it was also the nature of the sound: a harsh, unforgiving machinic repetition. After the leap in our seats, a mild panic ensued and every fibre of my being was longing to either leave the room or turn the sound off. He seemed to leave it on for a very long time. I kept wondering, in the midst of this internal, psycho-physical panic, what on earth could be the point of this torturous experience.

But once it became clear that he wasn't going to turn it off anytime too immediately, I managed to relax somewhat. It was once this happened that variations started to creep into conscious perception. Or perhaps it was the creeping realization of the variations that enabled me to relax; it seemed somewhat co-determining. I was experiencing a sense of three dimensional flow formations; something like a flock of boids invisibly moulding space. The becoming-conscious of a shifting, rather than static, field was certainly part of a lifting from distress to curiosity: a desire to listen to what felt like a subtly shifting form in the blackness of the room. The strength of the image I 'saw' in the room was such that it was like being awake in a dream – this graining of space was right 'there' in front of me but 'not there' in that it was apparitional.

Once the sound was tuned off and the lights turned back on I asked for confirmation that the sound really was made of unvarying sound loops. Everyone seemed to have shared the experience of variations having crept into their perception and we discussed how the experience of the sound was in conflict with the nature of its structure. From that point on, my interest in *Static Tones* lay in the fact that, *while objectively the sound doesn't vary, ones experience of it does*. I began to afford greater value to the potential of *datum*: a fixed standard or point of reference against which variation can be measured. Here the sound structure became an experiential datum: the complete lack of variation across the loops of sound data act to highlight one's own embodied, perceptual variation in the conditions of a particular environment. The design task for *The Shower*, it seemed to me, involved the production of an environment that would, in concert with the sound, help to highlight the experience of embodied variation. In bouncing off the way in which *Static Tones* does this, one might imagine that a minimalist approach to the design, involving the repetition of standardized elements, might be the way to tackle it. As the initial ideational images indicate, this was *not* how I began approaching it. However, where it landed was perhaps somewhat like an elasticized version of minimalism – somewhere between the rigid and the pliable, the standard and the non-standard: a literal embodiment of the flexible mould.



10.10 Microscopic image of the structure of latex.

1.3 Affective diagram

Figure 10.10 is an image of the microscopic structure of the latex which I found in the late nineties when I first started playing with latex as a material. I imagined that it explained something of why latex castings could pick up incredibly fine detail in its surface, where its homogeneous grid provided a stable invariant micro-structure against which minute variations within surfaces could be registered. My interest in the image was also that its homogeneity could be seen to describe the micro-structure of Cartesian space, as defined by points measured across axes.

In the context of *The Shower*, I turned back to it as an image with which to diagrammatically visualise the microscale of *Static Tones*: both being constituted by a tight field of identical, repeated units. The circles of latex become a visual analogue of the loops of sound. Where I had imagined that the lack of variance in the structure of latex enabled it to very evenly and precisely register the surface textures against which it is set, the lack of variance in the sound provided a datum against which the textures of experience could be perceived.

The experience of the invisible forms in dark space strongly evoked the fur fields. The sense of swarming dynamic formations around me, such as that illustrated by many boids simulations, felt very much like an inhabitation of the fur drawings unfolding into actual space. If the latex microstructure offered a diagram of the objective structure of the sound, the fur fields became a diagram of what *became* of them – in experience – vaguely formed intensities and flows shifting about in a field.

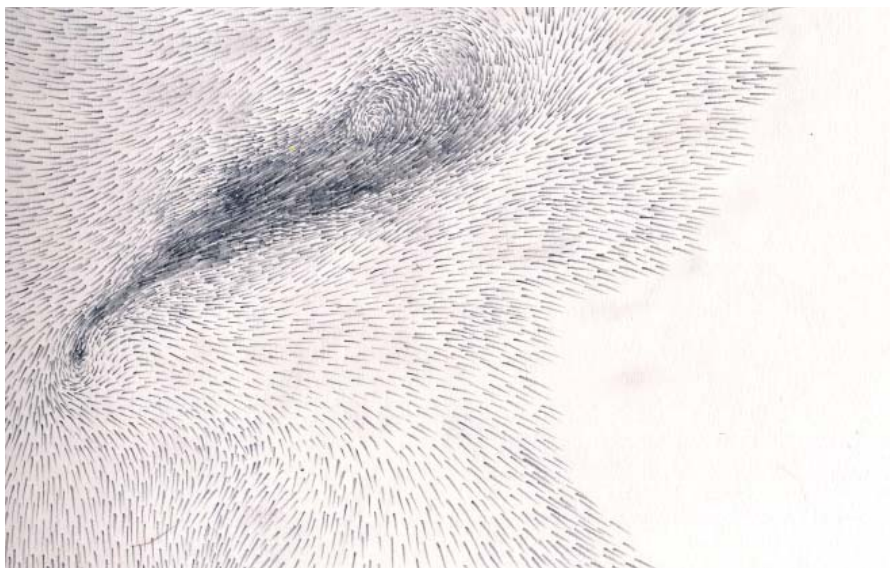
The ‘unseen’ but perceived image of formations in the blackness of the room sound a lot like the dynamic synesthetic forms that Massumi discusses as: “not mirrored in thought; they are literal perceptions. They are not reflected upon, they are experienced as events.”⁶ These synaesthetic forms are much like Stern’s ‘forms of feeling’ or the affective diagram. The way in which *Static Tones* was able to provoke attention to an awareness of the embodied variations of the moment became clear to me through this affective diagram whose image stayed with me throughout the design process. The affective diagram wasn’t the fur diagram in itself, but rather an uncapturable ‘image’ that lay between the fur field and the micro-structure of latex: somewhere between too much order and too little contour. Thinking back, their juxtaposition diagrams a similar difference to the one Deleuze discussed between abstract expressionism and modernist abstraction. If I had felt lost in the fur drawings, not knowing where to go with them, it was related to their lack of contour and their lack

6. Massumi (2002a), p. 186.

of edge condition or clear way of defining the whole. I have since come to understand that the key definition is not about outside edges, or the delimitation of external limits, but about defining 'boundaries' in terms of behavioural tendencies.

The early struggle to make the fur fields 'useful' or make sense of them, seemed to resonate with the initial trauma of the Static Tones experience as an event through which this affective diagram emerged. Trauma is characterized by an affective intensity felt acutely in one's embodied state of being, but where that state is somehow inconceivable or incomprehensible. It contains, like shame, an abiding mystery and sweeps through the whole self while suspending an ability to act. In recent years trauma theorists have come to consider shame as the emotion that most defines the post-traumatic state.⁷ Both are affective intensities caught in suspension, with nowhere to go. The perception of the affective diagram in the dark room filled with sound mass was not so much part of an inability to respond to the affective intensity, but rather the appearance of a way into moving with it or approaching it, at last. It opened a door into the opportunity to think through and transduce this intensity. If we can frame the affective diagram as a kind of design tool that I have gradually articulated across this research, then this particular apparitional appearance was one important phase shift within a very non-linear process.

7. See Leys, Ruth (2006) 'Image and Trauma'. This essay draws on her extensive study on trauma 'Trauma: a Genealogy' in which she argues that since its invention in the nineteenth century, "the concept of trauma has been fundamentally unstable, balancing uneasily, or veering uncontrollably, between two antithetical ideas or theories." (p 139) She names these antithetical theories as 'mimetic' and 'antimimetic'. Mimetic theory understands trauma as involving such a profound immersion that it precludes the possibility for the distance necessary for a cognitive understanding of what happened. As such the traumatised person is bound into repeated re-enactments or imitations of the traumatic event. On the other hand, antimimetic theory sees the traumatised victim as remaining aloof and a spectator of the traumatic scene. Rather than the immersive becoming of mimesis, the trauma is an external event. She sees the recent attention to shame as the primary emotion of trauma as fitting into the antimimetic tendency because it relates to the shamed subject's consciousness of being seen. This is not the context in which a critique of her paper is called for, but I would nevertheless like to suggest that Jack Katz's study of shame may lead productively to an understanding of trauma that rejoins the mimetic and antimimetic theories. This is not unlike the role of composition theory that I suggest in this thesis. The linking act that shame could provide for trauma theory is perhaps related to the way in which it points to a condition that always sweeps up the whole self.



10.11 Pia Ednie-Brown, fur field (pencil on paper).

8. Massumi (2002a), p. 215.

"The birth of a new technical object is never a linear progress. It is knotty, a mangle-prone emergence across a threshold of surprise."⁸

9. Farr (1999), p. 41.

Where, as Bacon wrote, an image has to, "be twisted if is to make a renewed assault on the nervous system,"⁹ this affective diagram seemed to offer a twist on both the fur field diagrammatic image and the structure of *Static Tones*. This twist most certainly emerged though an experiential assault: beginning as a knotted muscularity of adverse reaction, then to pass through a surprising threshold in which the experience of the event was literally reshaped through this 'image.' But in experiencing this perceptual image and identifying it as crucial to the project, I then needed to twist it again into another 'renewed assault on the nervous system'.

'Capturing' and 'twisting' this transitional image into the project did not occur as an application, in the sense of rendering it visible. Rather, it swirled around the process, with all its little sensitive hairs suggesting intimacy, tactility and immersion. In a quiet and indirect but powerful way it informed the relations that constituted the composition of the installation design. The design development process took all sorts of dead-end turns and cul-de-sac twists. On a number of occasions I tried to force related images into the work: the images of being inside a body in the early document were heading in that direction, as was an image of a looping flow formation that I played with at another time. The relationship between the affective diagram and the installation was not a smooth ride or an undeviating path. It squirmed and writhed (very) uncomfortably through a developmental falling-into-place.

1.4 Futurity and the Process of Change

fu-tu-ri-ty

1. The quality, state, or fact of being future; = FUTURITION 2. *rare*.
2. Future time; the future; a future space of time.
3. What is future. **a.** What will exist or happen in the future; future events as a whole. Also those that will live in the future, posterity (*obs. rare*). **b. pl.** Future events. **c.** State or condition in the future. Also, existence after death.¹⁰

The call for proposals for the *House of Tomorrow* were fronted by a blue, cartoony, Jetsons-like house image. This was later developed into the exhibition 'logo' of a Jetsons-like space ship. (Fig 10.12) In the catalogue published for the exhibition, the curators, Liz Hughes, Shiralee Saul and Helen Stuckey, claim that the exhibition belongs to a "strong twentieth century tradition of Houses of the Future,"¹¹ associating it in particular with Robin Boyd's *House of Tomorrow* featured in the 1949 Modern Home exhibition in Melbourne. Other references to houses or images of the future are dated between the 1920s and 1968. *The Jetsons* were a product of this period, being a feature of 1960s television screen along with their flip-side, the Flintstones, which first screened in 1960. But both of these cartoons, produced by the same studio, Hanna-Barbera, were a recasting of the socio-cultural-technological present into either the future or the Stone Age past. The past and the future of the 'contemporary era' were both explicitly cast into the present. It is fitting then that Boyd's 1949 *House of Tomorrow* was, as the Experimenta curators write, "less of a vision for the future than a plea for good design in the present"¹² and "provided a forum to critique the present, to parody and play."¹³

The curator's essay makes a swift jump from the 1960's to what they saw as today's 'mediacentric' home of the future where ubiquitous computing has turned the home into "a media command centre."¹⁴ In the future-present something with a mechanical intelligence anticipates your needs and moves: raising the room temperature, making your coffee while you shower, ordering the groceries as supplies become depleted. What you are feeling and are about to think is being dealt with already: the house of the future is poised in the very near future-past: in anticipation. But only in anticipation of what you already thought you needed. The future gets closer and closer only to what has already been anticipated. Experimenta's *House of Tomorrow* was poised as "a translation device between yesterday's



10.12 'The House of Tomorrow' exhibition logo (2003).

10. Oxford English Dictionary Online, Oxford University Press, 2007.

11. Hughes et al (2003), p. 9.

12. Hughes et al (2003), p. 8.

13. Ibid, p. 9.

14. Ibid.



10.13



10.14

10.13 The Jetsons. 10.14 The Flintstones.

15. Ibid, p. 11.

Modernist exhortations and tomorrow's technophilic commercials."¹⁵ As such it becomes caught in the already known and inscribed, between the idea of yesterdays tomorrow, which is more-or-less today, and the already anticipated, next move.

I was never comfortable with the Jetsons genre as a way to imagine the future. Rather than represent the future as a ready-made, nostalgic image, I was more interested in how we feel the emerging potential of the future, or how we sense looming change. This 'shower' was made for a 'House of Tomorrow' but aimed at a different kind of futurity: a way of approaching that which might, but hasn't yet been anticipated. This is akin to Bergson's call to:

16. Bergson (1998), p. 308.

"Install yourself within change, and you will grasp at once both change itself and the successive states in which *it might* at any instant be immobilised."¹⁶

17. Massumi (2002a), p. 36.

In approaching the future, in a way that thinking-feeling doesn't get caught in the already inscribed, *The Shower* project aimed to tip experience into a intensified *here and now* through an amplified alertness to one's embodied sense of aliveness: "One's sense of aliveness is a continuous, nonconscious self perception (unconscious self-reflection of lived self referentiality)."¹⁷ Rather than inscribe an image of what the future might be, the aim was to produce the sense of something bodily but intangible, palpably looming but as-yet-unknown: an *intense feeling of potential* or an *affective intensity*. But it was also about tendency, something I have highlighted in relation to all kinds of behaviour. As Massumi has written: "Tendency is futureness: pure futurity."¹⁸

18. Massumi (2002a), p. 15.

1.5 Now Moments and Moments of Meeting

'The unity of emotion, which is the unity of the present occasion, is a patterned texture of qualities, always shifting as it is passed into the future. The creative activity aims at preservation of the components and at preservation of intensity.'¹⁹

19. Whitehead (1968), p. 167.

The interest in the *here and now* as an affective intensity was, at the time, being informed by the idea of the 'now moment', as discussed by a group of psychoanalysts, involving Daniel Stern and his wife, who call themselves 'The Process of Change Study Group' (PCSG). Their modelling of a kind of 'pivotal moment' of experience is a useful one here in that it offers a way to conceptualise the event through which the affective diagram emerged in the *Static Tones* experience discussed earlier. This later unfolds into a way of understanding the potential of the installation experience.

In a paper by the PCSG titled 'Non-Interpretive Mechanisms in Psychoanalytic Therapy' (1998), they are specifically interested in how one brings about psychological change. Standard psychoanalytic therapy revolves primarily about the process of interpretation as central to methods of provoking change in a troubled patient. But, they claim, change also requires "something more than interpretation"; something non-interpretive that is highly affective. They are drawing attention to undeclared knowledge that operates implicitly rather than explicitly in relationships, an example of which might be the difference of sensibility in the *Intimate Transactions* project. It dwells in the midst of things but operates "outside both focal attention and conscious verbal experience."

They call this 'implicit relational knowing', a form of knowing that is non-symbolic, nonverbal and not reflectively conscious, involving things like affects, expectations, shifts in activation and motivation, and styles of thought.²⁰ Like sensibility, implicit relational knowing is embedded in our particular processes of making sense, occurring in the realm of inter-relationality and manifesting itself in what they call the 'shared, implicit relationship'. In daily life, this becomes discernable in the way we socially and culturally gather in clusters of shared sensibility; implicitly we share something of a way of making sense of the world and can feel at home together. In any relationship, this undeclared field of shared knowing shifts as the dynamics of relationships play themselves out. The PCSG paper draws attention to moments in which a particular kind of relatedness emerges that is integral to a process of significant change in this shared, implicit relationship. Importantly, these shared changes involve shifts of

20. Stern (2004), pp. 113-114.

awareness for the patient, that being the primary aim of the therapeutic process. They describe this non-interpretive process as involving “special moments of person-to-person connection” which they call ‘moments of meeting.’

These special moments of connection begin with a ‘now moment’ which emerge through the falling apart of implicitly held conventions that normally structure and authorise the professionalism of the situation. This structure of the situation, which arranges the professional format and the roles of each party, could be seen as an enduring environmental armature that holds and conditions the exchange. If something happens that disrupts or destabilises this structural environment and its authorising status, the atmosphere shifts from a relatively stable and familiar set up, to one of turbulence and uncertainty. Pre-formed procedural approaches loosen into a high risk, artful moment of vulnerability and spontaneity.

In the emergence of a ‘now moment’, the conversation (or discourse) was just moving along and then suddenly, that path of action is thrown off balance and into suspension. This might occur when something outside the traditional therapeutic relationship framework occurs, such as the patient and therapist meet unexpectedly in the street, or the patient asking a question that shifts the focus from the intimate life of the patient to that of the analyst. In the falling away of certain conventions and structures that scaffold the standard interchange between patient and therapist, an affective tone looms large. Otherwise humming along in the background, affect now overflows and fills the foreground, making the atmosphere ‘hot’, or in other words, thick with the feeling of a feeling. Space becomes dense and thick. This is what they call a ‘now moment’. They write that:

“these moments are unfamiliar, unexpected in their exact form and timing, unsettling or weird. They are often confusing as to what is happening or what to do. ...The present becomes very dense subjectively as in ‘a moment of truth’. These ‘now moments’ are often accompanied by expectancy or anxiety because the necessity of choice is pressing, yet there is no immediately available prior plan of action or explanation.”²¹

21. Stern et al (1998), p. 903.

These moments present an enormous opportunity for positive change, but can easily be lost or, worse, botched such that the therapeutic relationship becomes damaged. The therapist, in the midst of a ‘now moment’ hot spot, has to leap from the scaffolding of technique and draw upon a more personal kind of knowing. The Process of Change Study Group discuss the ‘moment of meeting’ as a moment of ‘truth’ because:

"The therapist must use a specific aspect of his or her individuality that carries a personality signature. The two are meeting as persons relatively unhidden by their usual therapeutic roles, for that moment."

Importantly, the moment has to be seized and acknowledged such that a *jointly constructed* 'moment of meeting' emerges, wherein something unique is contributed from each party. There is, once again, a mutual affectivity within the process of forming a new understanding. The individual or personal, idiosyncratic difference is part of a shared moment in which the implicit knowing of the relationship is reassembled. Something is realised, materialised and transformed – becoming palpable, manipulable and less of an abiding mystery. But it is not simply that something hidden has been uncovered or discovered, because nothing is ever quite the same again. The emergence of a palpable change in the scene would seem to be akin to an interference pattern, a *moiré* of intimate interaction.

The affective diagram that emerged through the experience of *Static Tones* – an apparitional flow suspended between relentless repetition and embodied variation – would seem to be an instance of such an interference pattern. It could be understood as the emergence of a moment of meeting in that it was formed by contributions from both parties: the abstract structure of the sound and ones abstract embodiment or affect. It twisted the encounter from an anxiety-ridden one into a moment tickled by curiosity. But as much as this apparition emerged, it did not emerge entirely 'unwillingly', being both "involuntary and elicited." This emergence of a moment of meeting becomes a crucial one that defines, as I will go on to discuss later, the potential of *The Shower*.

While not as fully articulated as they are now, the ideas of trying to elicit a 'now moment' and for people to generate a 'moment of meeting' with the work, while not as fully articulated as they are now, were quite consciously active from the early phases of the project development.²²

This was when it all seemed to be going well. What was looming, but was as-yet-unknown, was the knarly, knotted monster of a collaboration nightmare.

22. My interest in Stern's work came about when, shortly after the birth of my child (2001), I re-read Guattari's *Chaosmosis* (1995) and his reference to Stern's *The Interpersonal World of the Infant* (2000). This led me to the paper by Stern et al (The Process of Change Study Group) in 2002, and my discussion of art as the provocation of 'now moments' in the opening lecture ('Too True to be Real') for my Vital Signs theory seminar in 2003. I then got a copy of Stern's newer book *The Present Moment* (2004) which I read in Jan/Feb 2004. In relation to the futuristic agenda of *The House of Tomorrow*, I saw an approach related to the 'now moment' and then 'the present moment' as having a great deal of potential.

1.6 Collaborative trauma

This project was the most difficult collaboration I have ever experienced. Complex difficulties built up through a range of tensions coming from layered and diverse dynamics within the group and between the group and the curators who had commissioned the piece. As the project developed a series of tensions of various kinds, largely unspoken, built up and became integral to its particular ontogenesis. Collaborative difficulties between Bruce and myself continued, seemingly involuntarily, or beyond our control, across the phases of its development for both its showing in 2004 (Melbourne) and 2005 (Perth).

I will not be attempting to analyse the complexities of these difficulties in depth here. However, it is worth mentioning that sensibility was, I believe, an important aspect of the tensions. Bruce's work is minimalist in nature,²³ bringing up a not dissimilar situation to the sensibility clash discussed in the *Intimate Transactions* project. As discussed in the last Act, the resonance of shared laughter emerges because of the appearance of incompatibilities. At an opening of a group show in 2005, of which *The Shower* was a part, I commented to Bruce that it was a miracle that the piece had made it this far, given that the collaboration had been so incredibly unsuccessful. He shook his head: "No Pia, it was a highly successful collaboration." He was right: the incompatibilities and tensions between us, while difficult at the time, were highly productive. The atmosphere of the process was transduced into the potential within the outcome. The creature we created, embodied the traumatic, monstrous tone of its history, but in the final analysis, I believe it also redeems itself as a piece with as much to offer as the collaboration itself did.

In 2005, for the same exhibition mentioned above, Bruce wrote the following rather elegant text for the catalogue, in which he points to his relationship to minimalism and abstract art:

"The Shower was conceived as a way of bringing sound to the gallery, in a fashion less compromised by that space's typically poor acoustics – flaccid, echoic emptiness. The desire to bring sound to the gallery comes from a need to experience the physicality, immediacy and transience – the power of sound – within the slow, elastic space of visual art. The piece is touched by the more extreme minimalist and abstract artists, with their inward gaze, their folding of the meaning of an object down, creating a quality of experience distilled from the conscious desire and unconscious expression of the artist. Rather than achieving the elegant simplicity of minimal forms, *The Shower*, I think, captures a certain savage vitality, an existential awareness that time is slipping past us, and us through it."



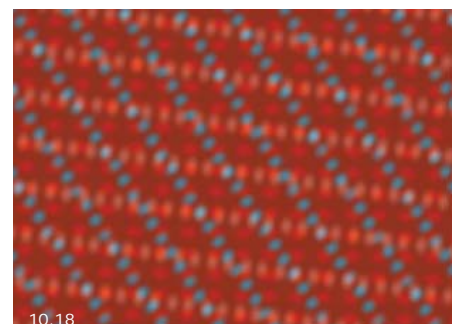
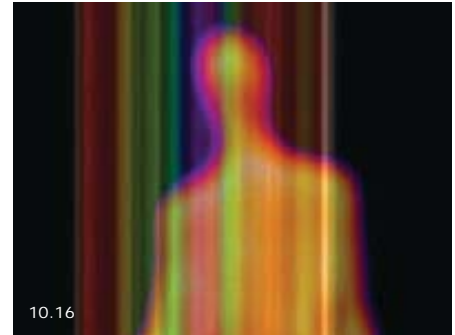
10.15 An animated gif of this monster was one of the first things to appear on our project development wiki.

23. This is quite evident across his solo pieces and he explicitly describes his project 'Blue Balls' in this way. See: <http://www.brucemowson.com/performances.html> (last accessed, 05.04.07).

If the collaboration had gotten a little savage at times, the work became all the more vital for it. If a plenum is something akin to “an enclosure or chamber containing gas that is at a higher pressure than the surrounding atmosphere,” then the shower became a plenum that resonated with affective intensity partly through the pressure that built up through tensions we found almost impossible to pin-point, articulate or clearly understand, despite several efforts to ‘talk it through.’ Between my tendency to flesh out affectivity into figurative embodiments and his tendency to channel it into and out of rigid, minimalist abstractions, an affective intensity was squeezed out in a high pressure bubble of tension. This interest in vitality was something we shared, even if we came at it or arrived there from very different sensibilities and routes. Rather than shared laughter, there was a shared tremor of a more traumatic nature, keeping the gulf between our approaches open and unapproachable, while holding it all, qualitatively, together. In relation to far broader historical tendencies that have been discussed in earlier Acts, this condition of conflict and rupture is one that characterises the conditions in which new theories of composition tend to emerge. In the much smaller scale situation of this particular project, this tendency seems to be reinforced, as it was here that the model of composition presented in this thesis became most clearly embodied and articulated. And it was the perception of an affective diagram quivering in the darkness of the room that first let in the breeze, lingering like a whorl of grease that lubricated the transductive hinge between process and product with a quality of vibration. A mantra for surviving the collaboration, dealing with the affective diagram and, as I will go on to later discuss, the installation itself, could well be:

“A quality is an actual presentation of lived relation. World-glue made visible. See it, be surprised, live it and like it (or not). But don’t just emote it. Above all, don’t take it personally.”²⁴

Affect is an impersonal matter, like the looming, unknown-as-yet potential of the future folding into the present.



10.16, 17, 18 Examples of Mowson's work: 'Infracinema', 'Blue Balls' and 'Barney'.

24. Massumi (2002a), p. 221.



2. Ontogenesis.

10.17 The first big skin, peeled off a shower recess.



10.18 Jane Caught peeling the latex off the shower recess.

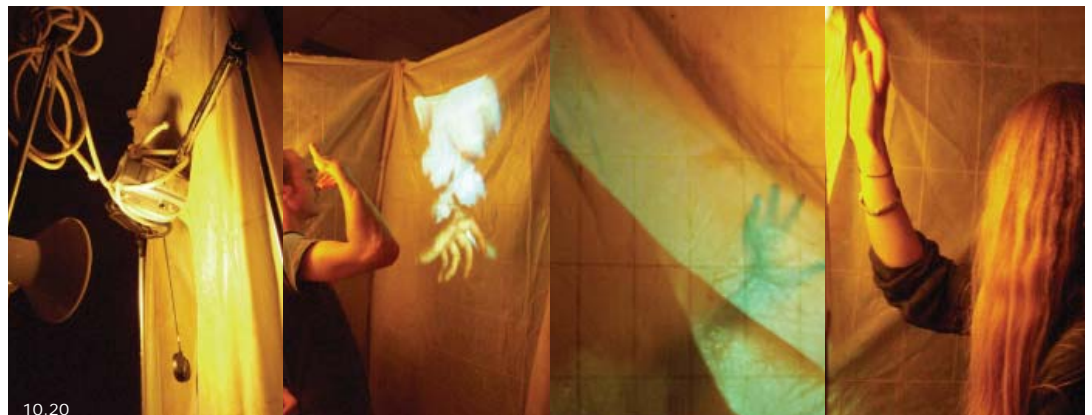
2.1 Skin development

About five weeks into the seminar investigations, a decision was made to investigate using latex as the interior skin. We began with the production of a single latex sheet being cast and peeled off a tiled shower cubicle. The size of the skin and the very skin-like colour and texture of the material tended to elicit a sense of horror, being reminiscent of skin peeled off a body – or perhaps, a skinned architecture-animal. As a thing, it was highly evocative; floppy and lifeless while also exceptionally lively with suggestibility. It made people recoil or it made them reach out to touch, eyes a little more open than usual. As a thing, it had affective power.

We strung up the skin on props during a working session in order to get a sense of what it produced as a surrounding surface and how it worked with light and shadow, including the projection of video capture onto it. Because of the way we set the camera-projection up, where the viewpoint of the camera captured the projection of the video onto the skin, recursive feedback images were generated, resonating with that

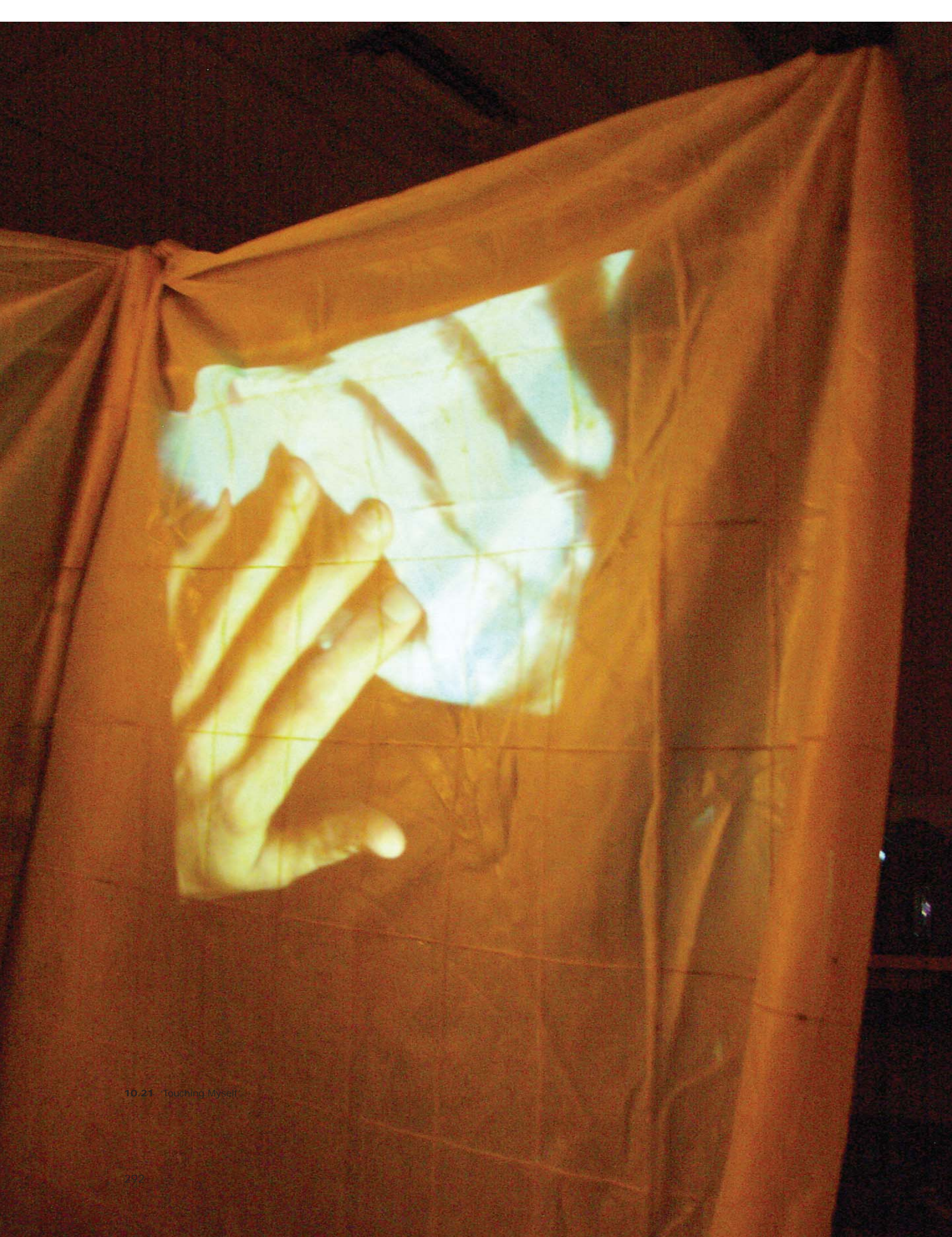


10.19

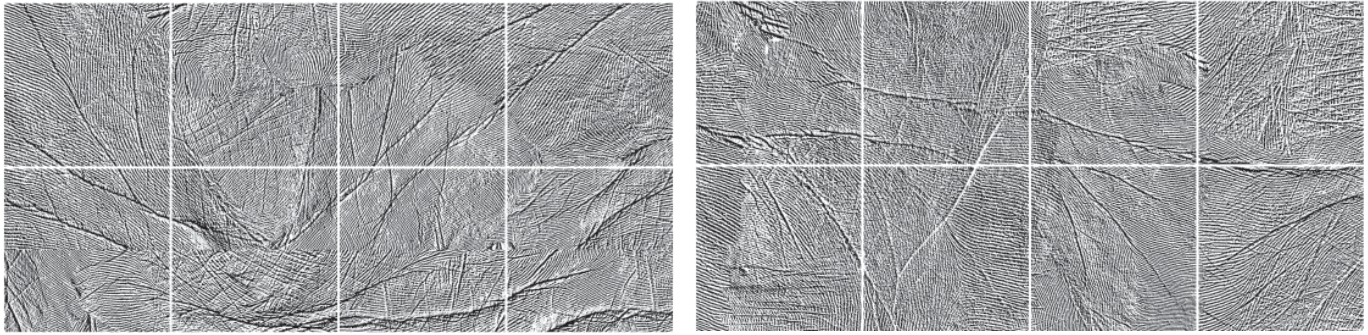


10.20

10.19 The first big skin, peeled off a shower recess. **10.20** Photographs from the working session tests.



10.21 Touching Myself



10.22 The skin texture images used to cut the particleboard.

which I had hoped the experience would produce; a perception of self-perception. In particular, the image of Bruce's hand, which I later named 'touching myself' (Fig 10.21) seemed especially and amusingly poignant in relation to the self-perception involved in successfully forging a moment of meeting. Our play with the multiply recursive layering of image in the projection had generated a great deal of laughter.²⁵

In amplifying the 'skin-like' nature of the latex, we went on to test a literal texturing of the latex with human skin patterning. Digital photos were taken of a range of people's hand palms. These images were magnified, stripped of colour and put at high contrast such that they became black lines on a white background. (Fig 10.22) This pattern became the image that guided the laser cutting of the particleboard sheets from which the latex skin was cast.

The first test pieces took my breath away. This skin-like latex fabric was both delicate and robust, beautiful and abject. Sometimes you just know when its right. That was one such moment.

We introduced the shower tile pattern back into the skin as a way of dealing with the fact that we could only laser cut small sheets of timber, that would have to be joined together to make a large enough single sheet of latex for the enclosure. The tile lines helped to conceal the joins between the smaller panels in making the larger surface onto which we cast the latex sheet. Not only did this retain a textural association with the conventional tiled shower interior, it knitted together the variational pattern of skin into the standard repetition of the tiles.

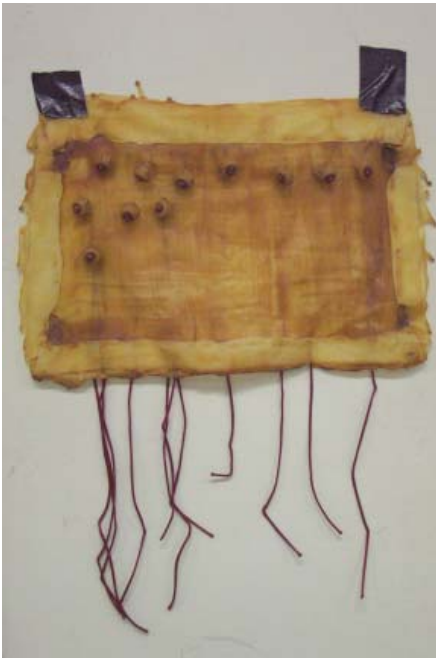
25. I was particularly interested to hear later that Bruce identified this event of play and laughter as a point at which he first felt clearly alienated from the group, because he felt we weren't taking it seriously enough. My disgruntlement, on the other hand, came from his increasing distance and unwillingness to actively contribute to the playfulness of designing, where we were left to 'do all the work'. It took me a long time to realise that this generative 'work' occurred through that very double-sided tension.



10.23 The first skin textured latex sample test.



10.24 Jane Caught and Aphra Ednie-Brown with the 'jonophones': speakers adapted to operate as vibration actuators.



10.25 The rubber grommet 'nipples' in the process of being made.

26. They were given this name after one of the students, Jonathan Podborek (see p. 131) presented the idea of cutting the fronts off speakers to make the 'vibrators'. He thought of this when he heard a radio discussion about how deaf people feel the radio in order to 'hear' it.

27. Bergson (1998), p. 129.

2.2 Vibrating and Sucking

Ways of making this latex surface vibrate in accord with the sound were given a great deal of attention. I wanted to throw the shivers that the skin seemed to induce in people and the vibratory intensity of *Static Tones* into the skin itself, such that it operated as a skin that shivered with you. When we placed one of the early latex test pieces on the front of a speaker cone, it was sucked in and out in a vibratory oscillation such that the texture on the skin appeared three dimensional; it acquired a body-presence through dissolving into multiply perceived after-images of this sucking in and out movement.

While I knew that we could not achieve quite the same affect in the piece (without the vibrations being isolated to circular areas of speaker cones pressed against the skin) I was keen that some vibratory action in the skin was built in. The 'jonophones'²⁶ were developed as vibration actuators: speakers with the fronts removed so they no longer make sound but still vibrated (Fig 10.24). Disks were made for the front of the actuator to which strings could be fixed and pulled taut between them and the skin. We toyed with the idea of attaching the string to the skin by tying the end around a marble nestled in the latex, such that from the inside the attachment detail appeared like little ass holes. We then moved to making little 'nipples' out of latex covered rubber grommets (Fig 10.25) that would hold a thread between speaker and skin.

But something unexpected happened that contributed to leaving the vibration actuators and 'nipples' out of the piece. I had been concerned about the space getting too sweaty and smelly through large amounts of use, as was expected in the *House of Tomorrow* show. It needed to breathe. To ensure this wouldn't be a problem, I had included an exhaust fan into the ceiling plan. Then, to our surprise and delight, once we had finally got all the elements in place and strung up the latex skin, we discovered that the fan sucked the air out to the degree that it also sucked the skin inwards, constricting the space around the body. Not only was this incredibly powerful experientially, it ensured that the skin would be as taut as possible and have an in-built forcefulness against which the person inside could push. Pushing the skin outwards away from the body involved a noticeable, through not prohibitive, muscular effort.

As we wrapped the constricting, elastic latex skin around the thick sound mass of *Static Tones*, it was starting to feel somewhat like Bergson's urging toward durational perception, where we, in an attunement with the actions of skin and sound, "grasp ourselves afresh as we are, in a present which is thick, and further more, elastic..."²⁷



10.26 Bruce Mowson inside the Shower.

2.3 Rejection

"...there are people who are attracted by the permanence of stone. They would like to be solid and impenetrable, they do not want change: for who knows what change might bring?...It is as if their own existence were perpetually in suspense. But they want to exist in all ways at once, and in all one instant. They have no wish to acquire ideas, they want them to be innate ... they want to adopt a mode of life in which reasoning and the quest for truth play only a subordinate part, in which nothing is sought except what has already been found, in which one never becomes anything else but what one already was."³⁸

38. Jean-Paul Sartre (1948) quoted Mary Douglas (2002), p. 200.

The first significant response to the work was another traumatic event. A week or so before the opening, the Experimedia curators came to inspect the piece. Their response was stony and silent. Shortly after they left, they called to inform us that they could not accept the felt outer covering and we would have to cover it with white plastic. In explaining their decision, there was some mention of health and safety issues (related to dust) but it was eventually admitted that it was a stylistic or aesthetic issue of sorts, where they felt that it simply did not look futuristic enough. Bruce recounts the events in a letter we eventually sent to the Experimenta Board:

"On Saturday 30th August, the curators saw *The Shower*, and subsequently informed Pia and myself that the work could not be included in the exhibition in its present form. It was explained that the thick grey felt, which comprised two of the structures walls, made the work "big and hairy" and it would "stick out like dogs balls", whilst all the other works in the exhibition are ... slick." The curators stated that the work could be included in the exhibition if the felt was covered by opaque plastic. After enquiries on Monday morning, Pia and myself found only clear plastic of workable dimensions. In a meeting later that day, the curators said that the clear plastic was not suitable, and it was agreed that white plastic might be both suitable and available. Helen Stuckey offered to try to find such material, but failing this, the artwork would be withdrawn. On Tuesday 2nd at 1pm, Helen phoned Pia and myself to say that the piece would have to be withdrawn."

Too hairy and not slick enough. We had indeed made a monster sufficiently repulsive to have it expelled from the *House of Tomorrow*.

But by the time of the opening the students made up a range of circular felt badges, with one of the following phrases laser cut into their surface:

'tomorrow can be felt'
'here to be felt'
'too hairy for experimenta'

Laser cutting felt is a very smelly business. It smells like burnt hair and the odour lingers for a long time. So, as we handed out hundreds of these badges at the opening, we were also attaching a burnt hair perfume to their experience of the event. We laughed a lot that night.



10.27 Tim Schork and Jane Caught laughing about the curators' response.



10.28 Tim Schork and Jonathan Podborek constructing the Shower.

2.4 Public life

The Shower was first exhibited in a group show called Job Lot #59, curated by Louise Ann Zahra at The Project Space, Cardigan Street, Melbourne, June 2004. This first showing was a welcome relief from a fairly long period of storage, after its curatorial expulsion. In the first version of the work, we had the felt draping over the front and back such that people entered the latex interior via a slit in the felt. The 'nakedness' of the latex skin was 'protected' on all four sides, held within an outer enclosure of felt and perspex. When it came to exhibiting the piece in Job Lot #59, we became keen to expose the latex more openly while still incorporating the 'bodily' and 'fleshy' mass of the felt within the piece. So, I pulled the felt back off the front and draped it like a trail from behind. Over the course of its exhibitionary appearances it did a kind of gradual striptease.

For the next iteration for a show in Perth in 2005, Bruce and I decided to try removing the felt (and steel support structure) altogether (see 'iteration 2'). I then developed a hanging system for its suspension from the ceiling. We were struck by a sense of relief in its nakedness, as if it had finally thrown off some heavy and unnecessary clothing.³⁹

The gradual letting go of the felt was also a process of throwing off the last vestiges of fleshy heaviness. The initial rather heavy and clunky drawings of the piece, that tried to gather a sense of bodily presence, had at last been disposed of. The body-ness became less weighed down by flesh and veered closer to an abstract embodiment of tensile relations. As it lost gravity and gained more suspension and lightness the laughter around the piece began to get more audible and noticeable. Following the 2005 exhibition, the following extract from a review, published in *The Australian* newspaper, was written by artist, Ted Snell:

39. We had to reluctantly admit (smiling wryly) that perhaps the curators, and their dislike for the felt, had been onto something after all. Although, it seems unlikely that the naked latex would have submitted to the 'slick' they were after.

Adjacent to le Brun's work, Bruce Mowson and Pia Ednie-Brown from RMIT University have installed another environment that one enters with trepidation. The problem they have identified is more solipsistic, requiring their participants to confront their own existence by stepping inside The Shower, a life-size rubber lung suspended from the roof.

Once inside, the latex skin of the booth envelopes you when the air is sucked out with an eerie mechanical whine. The thin walls press against your body until your breathing and your beating heart become intolerable and the claustrophobia drives you out into the relative comfort of the gallery. For the next few minutes the heightened sense of mortality and the mechanics of respiration deliver the punchline the artists have carefully crafted.⁴⁰

40. Ted Snell, 'Shape Shifters' (exhibition review), *The Australian*, 04 Jun 05.



10.29 The Shower exhibited at the Perth Institute of Contemporary Art (2005).



10.30 Images of The Shower exhibited at The Project Space, Melbourne (2004).

Snell's recognition that the installation required "participants to confront their own existence" hit a chord for us, but such a confrontation was something that many were not willing to take on.

When *The Shower* was first exhibited we found that many refused to go inside, many others very quickly exited while some remained inside for surprisingly long periods of time. In Melbourne, I witnessed one man enter the gallery and run straight to the installation. He was in there for 3 or 4 minutes, playing with the skin quite actively. When he got out he looked at us, smiled widely and said "It's still the best trip in town!" and then, apparently energized, literally ran out of the gallery again. But moments such as these stood out as unusual at this first showing in Melbourne.

The more common reluctance of many to engage with the piece, either at all or in any extended way, is not hard to understand. With the combination of the sonic assault, the constricting space and the creepiness of the skin, *The Shower* presented itself as highly *impositional* rather than 'responsive', something like that which Benjamin objected to in Wolfflin's compartment. The character of the piece was too strong, its affectivity too imposing (too viscous). But unlike Wolfflin, this was less of a charismatic imposition than a repulsive one: the sound is 'unfriendly' in its relentlessly machinic repetition; the enclosure sucks around the immersed body in a way that can feel ominous and claustrophobic; the latex itself, with its human skin like qualities, is quite intensely affective to many, often inducing revulsion. It has a tendency to evoke various forms of revulsion and fear. To some extent, it is a phobia or fear inducer, particularly claustrophobia and body-horror.

The importance of this tendency to induce fear, revulsion or trauma lies partly in what the process of overcoming it entails.

When I think back to the initial exposure to Bruce's *Static Tones* in the darkened room, the mild trauma of that experience and the perceptual images that emerged through enduring that experience now stand as an important moment. The trauma of that experience and the partial resolution of that trauma became, mostly unwittingly, a crucial operation of the piece that emerged. That resolution rested on turning from a reactionary tension to a more relaxed stance of a listening-feeling of the subtle variations of the situation. This would seem to be like willingly moving from a stance that insists on one's separateness from the (repulsive, fearful) thing into a working *with* rather than in reaction to something other.



10.31 Perspex connection detail of The Shower (Iteration 1, 2004).

3. Composition

3.1 Building Suspense: Oscillations of Attunement and Misattunement

"The significance of art does not lie in the meaning it is said to convey, or in the meanings it is meant to convey but in its *alteration of meanings that have been constituted elsewhere*."³²

32. Evans (1995), p. 37.

A young girl³³, around 3 years old, walks onto a suspension bridge. "It's like being in a wish", she said to her mother, who was standing just behind her. This scene, recounted to me by a friend (the mother) struck me as a superbly sophisticated, deeply spatial instance of synesthetic affect attunement. 'Being in a wish': truly felt but only barely real, tentatively and bravely poised in the air, as an event that is both here and coming toward you from the direction of the hoped-for future – like daring to step into and anticipate the experience of crossing a wavering suspension bridge to the other side of a dropping away of the ground.

33. Cora Hughes, a friend of my daughter.

The sense of a coming future, looming in the imagination, unknown in its specifics as yet but nevertheless directing ones orientation or next step, is a property of threat as much as 'being in a wish'. Suspense is a state of uncertainty or being 'up-in-the-air', accompanied by a sense of anticipation of what might be about to occur or how things are going to 'land.' Because it involves the sense that things have not yet become clear, it is more affective than emotive – one is unsure about how to feel because there is nothing to clearly name yet. Eliciting a sense of suspense is a way of intensifying affect.

In the transition between the latex micro-structure image and the fur diagram/images is a tension between repetition of the same and variation through repetition. The power of this transition does not simply lie in the move from one form of repetition (sameness) to another (variation). It lies in an *oscillation* between one and the other: a suspenseful tension strung between two ends of a spectrum.

One of the details of *The Shower* made a textual allusion to suspense. We made little circular, perspex washers for the junction between the large perspex sheets and the metal frame, around the edges of which was etched:

"tomorrow never comes"

This was partly a tongue-in-cheek comment related to the name of the exhibition for which it was made: 'The House of Tomorrow'. Tomorrow is a name for something always on the horizon; something about to happen but still looming. Given the desire to invoke an embodied 'here and now' through the experience of this installation, an allusion to a never-ending-present was a way of intensifying that state, letting it roll round and round, building up in intensity.

Suspense was built into *The Shower* through a range of affect attunements and misattunements oscillating in the relations between components or aspects of the installation.

As quoted earlier from Stern, "Attunement takes the experience of emotional resonance and automatically recasts that experience into another form of expression."³⁴ The distinguishing feature of attunement is the degree to which a given behaviour is *recast* into a different form. An attunement is not affect moved or translated from one place to another (as the idea of empathy implies) but transduced into different forms such that a feeling across these forms can be felt (both because of and despite these differences). As such, attunements resonate, as in shared laughter. As Stern summarises:

"Affect attunement, then, is the performance of behaviours that express the quality of feeling of a shared affect state without imitating the exact behavioural expression of the inner state...imitation does not permit the partners to refer to the internal state. It maintains the focus of attention upon the forms of the external behaviours. Attunement behaviours...recast the event and shift the focus of attention to what is behind the behaviour, to the quality of the feeling that is being shared."³⁵

34. Stern (2000), p. 145.

35. Ibid, p. 142.

To enact an affect attunement, one needs to 'get inside' the movement of a vitality affect, much like the way Bergson writes about installing oneself in change (Act 6). Imitation comes from 'standing outside', responding to movement as an external object. Unlike attunement, very close imitation will often seem a little robotic or machine like, becoming more of a joke or those comic imitation routines done in the service of ridicule. The sharing of feeling states is a joining-in-with, rather than a mirroring or throwing back. "Imitation renders form: attunement renders feeling" – but these different modes of engagement, Stern notes, do not present a dichotomy, but "occupy two ends of a spectrum."³⁶ Form and feeling perhaps become most powerfully combined, in fact, through a related trajectory of 'misattunement'.

36. Ibid.

Misattunement is not the same as 'non-attunement', which involves a deficit of affective connection. Rather, misattunement loops provocatively out of attunement: it still involves, 'getting inside' an action and recasting it, but with enough mismatch for it to become more covertly coercive, or more actively *redirecting* or *bending* the flow of activity without entirely departing from it. A shift from empathy or imitation to attunement and misattunement can be diagrammed in a shift from pattern to texture: pattern implies repetition that suppresses variation, texture implies repetition *through* variation.

For all the emphasis I have given to the rupture or conflict at work in the articulation of new modes of composition, the nuances of misattunement, as a (pushy) type of attunement, reiterates the suggestion discussed through laughter, that these conflicts and incompatibilities can equally become a moment of sharing as divergence.

3.2 Compositional Relations

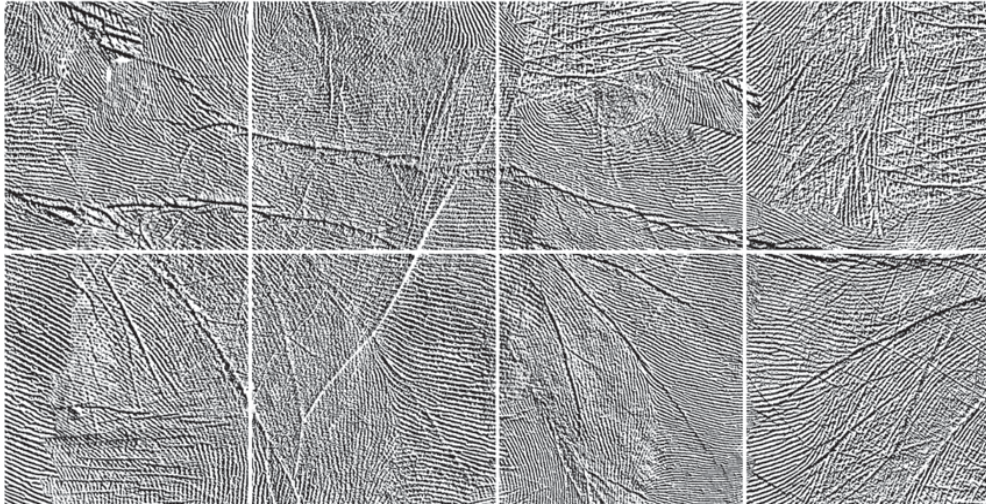
Compositionally, the piece was held together through a series of juxtapositions that operated as a flux of attunements and misattunements.

The first instance of this was the square tile lines in the latex and the hand texture that coursed between and across them. One was a standardised repetition of straight lines in a grid, the other a meandering variation of the line. If these might seem to be radical or polar opposites, this is similar to the point I stressed earlier in relation to the standard and non-standard, where it is not that one is expressive and the other inexpressive but expressions that enact a different balance between affecting and being affected. They become misattunements in the sense that they present the same sets of relations, albeit as modulations of one another, rather than close matches.

Another key property of the latex was its skin-like appearance, not only because of its skin texture, but because of the skin-like colour of latex. As a secondary, signifying layer to the affective dynamics between shower tile pattern and skin texture, was the suggestion of a merging of the skin of bodies and the interior tiled surface of showers: potentially eliciting a sense of merger between body and environment. As the skin sucks in around bodies, this relationship between ones own skin and a second, latex skin was amplified. The attunement lies in the similarity between skins, but where one pushed about the other through their differences.

This sucking inward bought the latex texture into a very close visual range, such that the already-scaled-up skin texture worked to emphasise its proximity to the eye/body. The amplification of skin texture through scaling and proximity resonated with the suggestion of amplified physical closeness or intimacy.

Another dimension of the latex was its smell. The strong scent of the latex filled the space with a density that resonated with the density of the sound 'mass.' These two non-visual dimensions offered a mutually reinforcing sense of spatial thickness and a palpability of the incorporeal. The warm, humid air in which showering takes place has a similar density to it. This added to the initial idea of the sound operating somewhat like the stream of water that comes from above in a shower. The relationship between the relentless streaming of water and the relentless streaming of sound was added to by a resonance between the experienced variations in the sound and the swirling of humidity in the air. And then, as an action that played in the reverse direction, the fan was actively sucking the air out of the space.



10.32 One of the skin texture images used to cut the particleboard. **10.33** Hand against latex inside The Shower. **10.34** Latex sheet texture from first shower recess peel.



10.35



10.36

10.35-38 People engaging with The Shower at the Perth Institute of Contemporary Art (2005).

A further quite noticeable auditory attunement-misattunement arrived through the sound of the ceiling fan and *Static Tones* slipping, variably together and apart. The mechanical whirring of the fan was quite like *Static Tones* and the two were at times indistinguishable (at least to the unattentive ear). But as the skin sucked in around the body, the fan would slow down considerably, because there was, up to a point, a gradual evacuation of the air that it could suck out. This intensified a sense of creeping stillness, a slowing down and a gliding of match and mis-match between the two whirring sounds.

Certain social tensions were played out in the installation. Being inside was to be visually closed off from the outside but also exposed, with one's shape and actions inside set in a kind of naked view to others in the gallery. One was caught in a space of tension between hereness and thereeness, vulnerability and protection, being naked and clothed, exposed and enclosed. It was not just the experience inside the installation that was important, but also the experience of re-entering the social field of the gallery, where we found people searching to catch the eye of another, in order to smile or laugh, to seek a shared acknowledgement of the strangeness and unfamiliarity of that experience as they departed from it, hooking back into the gallery landscape.



To return, once again, to the site of the 'original trauma' when we first experienced *Static Tones*, the twisting of the repeated sound loops into the apparition of three dimension flow formations in the darkness of the room, becomes the first misattunement: it involved 'getting inside' the vitality affects of the sound and recasting or transducing it into the variations of embodied experience. This moment was one in which a reactionary posture shifted into a participatory one of active modulation through a form of misattunement.

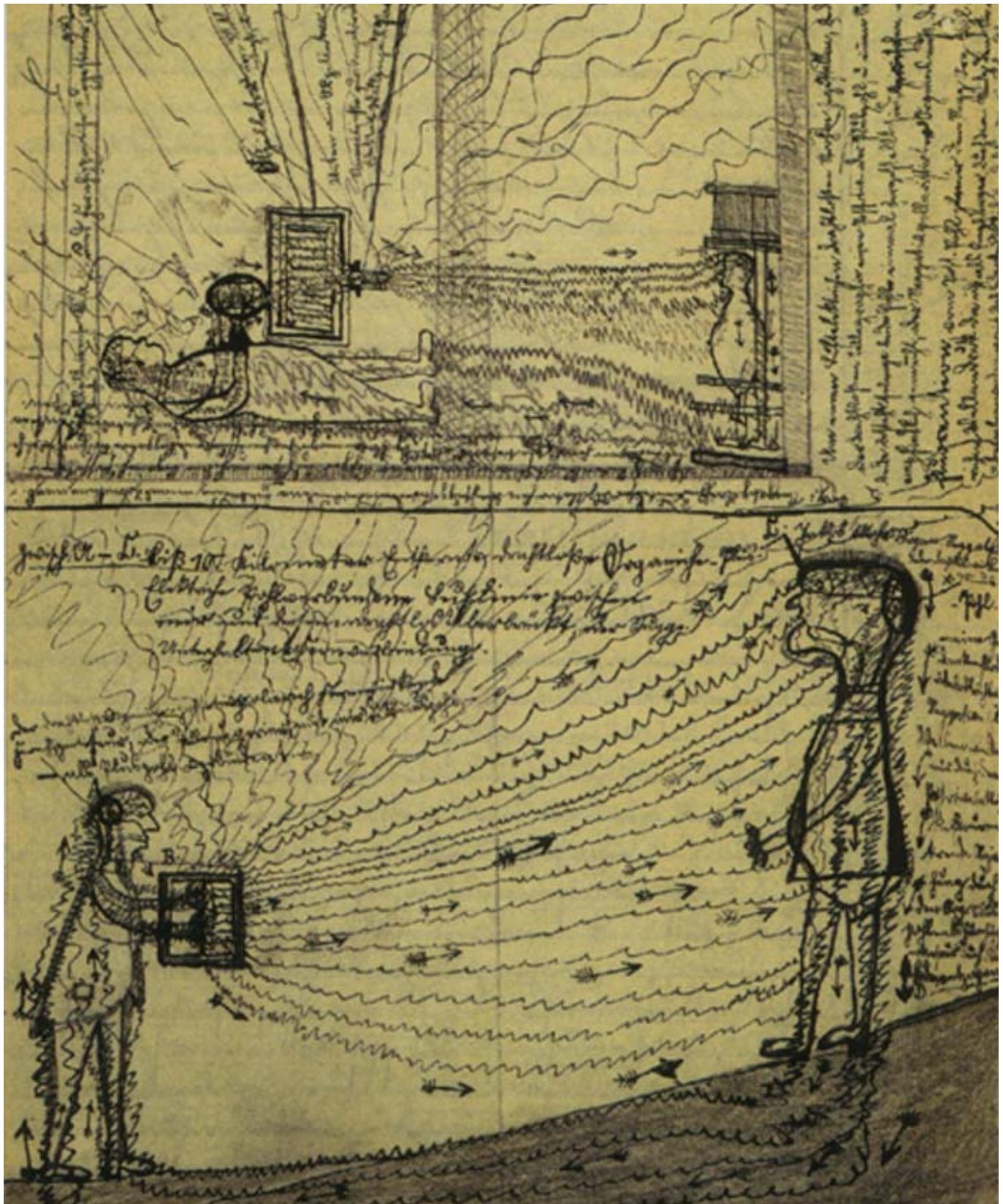
The piece was set up to vibrate in a suspended oscillation: a swinging back and forth between attunements and misattunements between relational configurations. At the start of this Act, I referred to *The Shower* as a plenum: space intensively filled with matter. This 'matter' began with Bruce's idea for *Static Tones* as the production of a sound 'mass'. The environment designed for this 'mass' acted to provide an instrument-environment through which to participate in or become an active part of the modulations of that mass. In terms of acoustic modulation, the space was immediately reshaped through the sucking inwards of the skin. The imposition of this aural density was coupled with the imposition of a physical crowding of 'personal space', where the automatic actions of the environment also triggered a range of affective slippages, such

as the slowing of the fan noise rubbing against *Static Tones*. All these compositional dynamics activated the mass, somewhat like shifting it from solid to liquid concrete: the mass become dynamic much like the sound structure shifting into the affective diagram. If *The Shower* can be understood as a plenum, its matter retained a viscosity: a “thickness”, or resistance to flow. This might be related to why, as I will go on to discuss, so many found the installation repellent. To quote Mary Douglas, as she paraphrases Jean-Paul Sartre’s attention to viscosity:

“Viscosity, he says, repels in its own right, as a primary experience. An infant, plunging its hands into a jar of honey, is instantly involved in contemplating the formal properties of solids and liquids and the essential relations between the subjective experiencing self and the experienced world...The viscous is a state half-way between solid and liquid. It is like a cross section in a process of change. It is unstable, but it does not flow. It is soft, yeilding and compressible. There is no gliding on its surface. Its stickiness is a trap, it clings like a leech; it attacks the boundary between myself and it. Long columns falling off my fingers suggest my own substance flowing into the pool of stickiness. Plunging into the water gives a different impression. I remain solid, but to touch stickiness is to risk diluting myself into viscosity. Stickiness is clinging, like a too-possessive dog or mistress.”³⁷

37. Douglas (2002), p. 47.

Viscosity is itself a kind of suspension in an ambiguity between solid and liquid: or the state of being unclassified, of being in the process of change. This was, after all, what I had been after with this installation experience. The opportunity to push back, modulate and play with this viscosity by, for instance, simply manipulating the proximity of the latex to one’s own body, to open the slit to let in air (a moment of ‘breath’), and to do it over and again in a playing with the environment, was up to the initiative of the person inside. Like not running away from the dark sound studio on that day of the ‘original trauma’, overcoming the imposition of viscosity involves relaxing into an active engagement with it, such that one both affects and is affected. Along these lines, *The Shower* might be promoted (albeit somewhat tongue-in-cheek) as an exercise or training chamber for the art of emergence, ethical expertise and emergent design practices.



10.39 Jacob Mohr, Proofs, c. 1910. The Prinzhorn Collection.

3.3 Form Caught In-formation

"No closed circles and no repetitive patterns exist to define the constantly adjusting relations of man and environment. They evolve in curves, never duplicating themselves."²⁸

28. Giedion (1948).



10.40 Photograph taken by Bruce Mowson to indicate what The Shower might look like.



10.41 Greg Lynn, an Embryological House (1998-1999).

29. Rahim (2000), p. 32.

Bruce's initial proposal to *Experimenta*, done prior to my involvement in the project, included an image of what *The Shower* might look like. He created an image through photographing a portion of a pink lampshade made of curved strips. When he showed it to me I commented that this kind of structure was similar to the faceting techniques by Greg Lynn, in particular reminding me of the *Embryological Houses*; being something like a 'primitive' of the variably curved surfaces of the house iterations. Bruce's lamp was to the *Embryological Houses* as the sphere was to the blob: "a sphere is a blob without influence". This relationship might, again, be seen in the relation between the structure of the repeated sound loops and the experiential field in which they are recast, between the image of the latex sphere micro-structure and the fur fields. As Lynn writes: "Every Embryological Houses© is designed as a flexible, curvilinear surface rather than as a fixed set of rigid points."²⁹ Lynn's houses offer up a series of forms, not unlike the process through which the *animate casts* were produced. Importantly each produces multiple versions through inflections of the one processual assemblage or process of making.

The Shower did something akin to this, but in a very different way. It enfolds the infinite array of possible inflections-variations of the processual assemblage into the one environment. Rather than being *outputs*, the possible variations are *embedded potentials*. This is the case most literally in terms of the way in which the latex can be actively manipulated, within limits, into many formal arrangements by a person inside it. But it's more than just an issue of it taking on many potential forms, because this also folds into many potential *forms of feeling*.

The act of pushing the latex from within involved, as I mentioned earlier, a noticeable, though not prohibitive, muscular effort. Through the force of inward sucking, the skin acquired an in-built forcefulness against which the person inside could push. Here, Wölfflin's notion of the 'force of form' takes on a different inflection: the quality or mood of this force is not pre-given, but felt out through engagement and negotiation or in the forces at play within the encounter. The latex skin became quite a material surface of negotiation through which the force of form becomes literally felt in a muscular manner while simultaneously and dynamically *taking form* through its encounters. In this negotiation of forcefulness there is

an affective transaction: an emphatically experienced form of (embodied-sensate) feeling. The form of the piece does not hold together through a particular 'intelligible will', as Wolfflin would say, because this 'will' comes about through a negotiation between the environment and the person engaging with it. If each of the *Animate Casts* captured a potential stance of the one mould and generative process of moulding, *The Shower* kept the mould alive to modulation, providing instead an experience akin to being inside the mould. If the mould provokes an internal resonance, then here one's own behavioural tendencies become internal to that resonance.

Formally, as an object, the piece seems almost unfinished. It does not convey the sense of a refined piece of formal composition. But if I was to further develop this aspect of the piece, the sense of being 'unfinished' would need to be transduced into a related sense of open eventfulness, rather than being designed to look, finally, finished in a polished over way. This was a property of the fur fields, which lacked clear contour or definite boundaries, but with a character defined by behavioural tendency.

In relation to Shane Murray's propositions⁵⁰ regarding the value of a thorough understanding of what a particular "formal language" *does*, my discussion of Lynn's work suggests that the key *tendencies of action* of such a language emerge through affective diagramming. As such, this language is one of *vitality affects* or time-forms, which for *The Shower* began with a tone of threat:

50. Murray (2004).

"A threat is only a threat is it retains an indeterminacy. If it has a form, it is not a substantial form, but a time form: a futurity. The threat is nothing yet – just a looming."⁵¹

51. Massumi (2005), p. 35.

While this project did begin with a very literal association with threat, threat itself is not so much the important issue. Rather, the issue is affective intensity: an affective forcefulness that is offered in a way that is not yet interpreted, symbolically rendered or narrated, not yet unfolded into response, not yet rendered as an emotion or a categorical affect such as a feeling of 'revulsion', 'fear', 'pleasure' or 'beauty'. The affective intensity is a time-form that looms or atmospherically swirls, pressing for a coming snowballing into forms of feeling. Snowballs form by rolling round and round, gathering and changing as they go.

In the compositional narrative of this thesis, the mould and the furry field of influence snowballed into an affective diagram, which then, like the mould, conditioned but did not *determine* the interrelations of forces

that constituted the composition of *The Shower*. This installation acted to suspend form in formation, becoming an embodiment of the process of moulding.

This property of *The Shower*, where definite form is withheld has much in common with an emphasis in the field of process architecture on 'designing the design' or designing a generative process through which multiple instances can be unfolded. But here the outcome never leaves the experiential space of performance. In a sense, *The Shower* could be taken up as a design process 'training or exercise chamber', where the stance required to play the installation as an instrument becomes a training process for the stance required for emergent design process.

As I see it, the greatest value of *The Shower* as an installation experience lies in the challenge it presents to those who engage with it, as an architectural extension of the experiential challenge presented by Bruce's *Static Tones*, where the architecture offers a tangible instrument for playing with that experiential challenge. To metamorphose the trauma into play, requires something akin to what Katz discusses as "the sensation of the tickle", which is:

"the product of a focus on the thin line between doing and being done, between the body as lived from within and as acted upon from without, between the body given three dimensional awareness through physical interaction and the body effaced by its use in collective symbolic interaction."⁵²

52. Katz (1999), p. 342.

In other words: an ethico-aesthetic know-how of emergence. As outlined in Act 3, the crucial attention to the texture of events is not just an awareness of some 'outside' situation, because it also relies on self-awareness, or a sense of the texture of the self.

The Shower aimed to elicit, virtually involuntarily, an amplified sense of situated self-perception. Not in order to promote navel gazing or self-reflection, but in order to provoke a heightened awareness of the self-environmental coupling. Ironically, this is the kind of self-perception that leads to what McIntock refers to as 'forgetting yourself' where you become part of something and it becomes part of you. It is a self-perception that involves differentiating ourselves from the rest of the world *in order* to be more actively engaged with it. This is a stance that lies between ambiguous merging and rigid distinction.

An ethics of behaviour has been drawn out here through how one responds to an affective intensity. This is not to say, I must emphasise, that people who refused to hop in or leapt out quickly, shuddering, were somehow 'wrong' and that those who managed a state of play were 'right'. All of these responses were crucial aspects of the 'meaning' of the work. The right and wrong, the good and the bad, are ideas of *morality* whereas the concern here is for an *ethics* or ethical expertise. Ethics is about ways of engaging with the world, that inevitably involve an aesthetics of behaviour. Here, I am highlighting the value of a particular mode of engagement for the specific context of 'age of emergence' and the way in which this installation might be of value in thinking/acting through this mode of engagement.

The Last Laugh (a conclusion)

In concluding, I will now revisit aspects of the thesis, bringing them together into a clarified outline of the model of composition and composure proposed by and through this thesis. This occurs in two parts, where I discuss:

- 1.** The model of composition, broken into three key components:
 - a.** Resonance as a key to compositional complexity
 - b.** Affect and the field of shared activity
 - c.** Aesthetics and the processual complexion of vitality

- 2.** The poise or stance that is integral to the above mode of composition: an ethico-aesthetic know-how.

1. Composition

In his new introduction to the revised edition of *Folding in Architecture* (2004), Greg Lynn emphasises that digital technology was never the core issue of the publication. Rather, he suggests that *Folding* marked another phase in architecture's interest in compositional complexity, as earlier marked by Venturi's *Complexity and Contradiction* and the wave of Deconstructivist architecture sparked by Philip Johnson and Mark Wigley. Looking back on the decade between editions, Lynn identifies three streams of architectural thought connected to the main issues raised in *Folding*: voluptuous form, stochastic and emergent processes, and intricate assemblages. But no sooner has he assembled these categories, he blurs them back into one another, coming to rest on "the loss of the module in favour of the infinitesimal component and the displacement of the fragmentary collage by the intensive whole."¹ This is one way of saying that emergence – the micro infinitesimal component and the macro intensive whole – is a model holding together diverging threads within the field.

1. Lynn (2004), p11

This model – the model of emergence – becomes felt as poignantly contemporary, or very 'now', because it resonates with the way in which broader socio-economic operations (or the 'pulse of the age') are similarly configured.

This thesis is offering a highly processual way of understanding the abstract 'structures' that hold together a composition. Fields of pure relations, or affect, and the internal differentiations that arise through the resonance and jostle of similarity and difference, become akin to, say, the mathematical principles that Renaissance architects employed as purveyors of the divine.

As much as the model of composition I am proposing here departs from those set out by Lynn in his 1993 and 2004 *Folding in Architecture* essays, I do not see this as a departure that simply leaves this history behind,

in the way that Lynn initially positioned Deconstructivist approaches as superseded by *Folding*. Rather, my aim is to provide a way of approaching the operations of compositional coherence that scoops previous compositional emphases together into a new way of understanding their shared ground of action. While an in-depth analysis of some key examples is required to demonstrate this, I am confident that the shards, criticality and disjunctions of deconstructivist architecture would be productively reviewed (rather than dismissed) and rejoined with its smooth, folding 'post-critical' offspring if reassessed through the model I am proposing here.

The different dimensions, layers and components of a design composition might attempt a smooth continuity, a contradictory discontinuity or, as is most frequently the case, both at the same time (by virtue of one another). But however the emphasis is swung, it is an emergent resonance that forges compositional vitality (and fresh ground of shared action). In other words, resonance is the key property of aesthetic coherence (whatever the tone or character involved).

1.a. Resonance: the power of connection

Throughout this thesis I have drawn attention to the affective dimensions involved in engagements of many kinds. I began by outlining a relationship between affect and emergence firstly within a broadly scoped notion of the contemporary situation and secondly in terms of how we might approach the idea of emergence. Particular importance was given to our understanding of creative process and aesthetic composition as emergent processes. The emergence-affect relationship was laced through the imbrications of aesthetics and ethics in developing an idea of ethico-aesthetic know-know – as a way of operating with a heightened awareness of affect amidst all manner of engagements. I explored the role of affectivity in the act of drawing and making, within the translation from drawings to buildings, in the act of engaging with a range of different artefacts (texts, drawings, sculptures, buildings, installations) and within collaborative scenarios. Having suggested that ethico-aesthetic know-how is important to the development of practices of many kinds (daily life, scientific enquiry, design or creative practices and collaborative exchange), an appraisal of my own research projects demonstrated how a related affect-oriented attention can allow for quite unexpected ways of appreciating those research acts.

What surprised me as I worked through the very local, particular material in the final Acts, was the way in which key affective dynamics

within the design process lived another life as part of the dynamics of the outcome or product. The relationship was not a 'mirroring', where the products reflect or offer access to the process, for it is far more complex – or emergent.

While it is convenient and clarifying to see process and product as a two part narrative that swings about a connecting hinge, this is a little misleading. The final Acts began to demonstrate a breakdown of any linear progression from process to product where the affective diagram (that could be seen as the hinge) becomes more than an assemblage that connects sequential phases of a project, as was implied in the discussion on translation in Lynn's work. Rather, an affective diagram – or assemblage of relations – reappears in different guises, sweeping together a temporally non-linear, highly performative compositional coherence through the resonance that arises between them.

In *Intimate Transactions*, for instance, we found a poignant relation between the coincidence of collaborative conflict (or mismatched sensibility) and the difficulty of achieving mediated co-presence in the game itself. This coinciding produced a resonance that we found exemplified and embodied through laughter. Vibration on contact (a key property of our haptic system design) attained new significance in its coincidences (and resonance) with laughter. All of these instances involved the issue of finding 'ways of acting together' which did not eradicate differences, tensions or conflicts, but rather folded them back into the situation in a rhythmic manner. Laughter became the emergent embodiment of the relational configuration – or affective diagram – that was common to these instances: a tensile jostling of connection and disconnection, convergence and divergence, similarity and difference, holding together and falling apart, etc. In shared laughter, the body transduces this jostle into a gesture that enacts the tension once again, throwing open bodily expression into an instability of fluctuating sounds (or vibrations of muscle and air) that connects with a similar gesture in another body. The bodily act of laughing resonates with the feeling that induced the laugh (inducing a self connection), as well as resonating with the bodily act of laughing in another (inducing a self-other connection).

As Bedau might say, there is a "vicious circle" at work here: a resonance of resonances. Laughing, it seemed, was an act that both embodied and produced a resonance in the same gesture, folding the conflict back into itself and letting it run into an amplified expression. In appreciating how shared laughter both relieves and enacts the tensions that arise through conflict or obstacles to connection, we also found that it diagrammed how resonance acts to connect divergent events in general. This could

then be folded back to resonate with earlier propositions about the role of composition theory in establishing shared ground for stylistic divergence.

2. Katz (1999) p105

But a key issue with laughter, as Katz pointed out, was that “a formal inconsistency of perspectives must become practically untenable.”² There needs to be a pressure or motivation to deal with and, in some sense, resolve the inconsistency. This is where the flexible mould or affective diagram becomes a key in providing that pressure. But here the chicken and the egg – the feedback loop or rhythmic refrain – loops back again. For the configuration of the affective diagram – or the assemblage of relations – provides the pressure within which similar configurations will resonate.

It all seems to be going around in circles. Are we hopelessly circulating round and round, suspended in a refrain from which there is no escape? Yes, if we focus on the question: ‘which came first?’ No, if we are able to enter into the qualities of activity that make each enactment of the refrain – or life cycle – both idiosyncratic and related to every other. This is what Barbara McLintock, for instance, seemed to excel at. In entering into these qualities, or into the aesthetic properties of relating, we can tweak them, remodel them in various directions, through complex processes of affect attunement and misattunement. An act as small as the timing of a laugh or the manner of hand gesture is an aspect of setting up the condition of possibility for larger scale resonances to occur. This is why the very intimate, micro scale modes of engagement and relating to the world become so important, because they all, potentially, play a part in modulating the complexion of a resonance in which it participates. This is also why there are such profoundly ethical dimensions at work here.

3. Although, it has to be said, I did not find a methodology and then apply it. I was drawn to a methodological approach as a way of clarifying the ways and means through which I was exploring the significance of the projects through writing.

The particular events or issues foregrounded in any of the examples explored throughout this thesis, arose through the approach of regarding the products and processes of creative production as forms of social or relational interaction rather than acts applied to the social.³ Given this conditioning factor, each event is nevertheless a relatively minute detail amidst a much vaster sea of human and inhuman relationships that the development of any project involves. Any one particular issue or event is highlighted *because* the relational assemblage they embody was amplified through resonating with other very different but uncannily similar assemblages that were at play within the project development. As such, things rise to prominence through resonance, rippling the surrounding field with their affective tone. It is impossible to find clear causes and effects in a field of this nature, where one gesture or parameter affects another and vice versa. This is the case both within any given level of interaction or relatedness and between levels.



11.01 Cameron Robbins, Untitled (2005).

Here, I am highlighting resonance – another case of strong emergence – as the phenomena through which the relatively autonomous levels collaborate in the production of vitality. Resonance *is* an emergent process, but unlike the more mechanically described understanding of processes, it is, in itself, an intensive whole that integrally involves downward causation. If affect – or pure relation – is the fundamental field-ground of composition, or ‘holding together’, resonance is the process that modulates and knots this field into its differentiations.

A diagram of these operations, based on a rhythmic refrain, might look like this drawing by artist Cameron Robbins (Fig 11.01)

This ink pen drawing made in 2005 is one of a series of many produced by a wind drawing machine designed and made by Robbins. I have written about this machine elsewhere,⁴ with particular attention to an earlier drawing called *The Fall of Pia* and the story of its making. The machine is propelled into repeated passages of movement by wind, tempered by its speed and direction. Every drawing is different. They hold far more sophistication than any of my contrived diagrammatic sketches of similar configurations (filling my sketch books with loops of black ink, over and over). This drawing embodies more information in the linework with, for instance, the momentum of each circuit of the pen registered in dots made as it leaps out of one passage, lands momentarily before returning back to begin another. Other layers of information are also embedded, where it bears traces of having been an outdoor drawing in the splatters of light

4. Ednie-Brown (1999).

rain drops that occasionally spread the black ink into grey blotches. For the purposes of this thesis, it provides an apt diagram of the configurations I am outlining. Any one of Robbin's series of line drawings would do, becoming all the more apt for the very particular character they each embody.

In 'reading' this drawing as a diagram, it involves three primary components: material/substance, process and product. In terms of what I have outlined in this thesis, the primary material is complexes of vitality affects, embodied here by the passages of the line work and their wobbles (or the activation contours of each patterned change over time). The process is a series of affect attunements and misattunements, embodied by the flux of difference and similarity running across those lines. The product is the character or complexion of the whole drawing: a resonant vitality that exceeds any particular aspect, but is utterly inseparable from them.

1.b. Affect: The Field of Shared Activity

Affect, as the field of 'pure' relations, is deeply knotted into refrains whose repetitions and variations are tempered by material tendencies. Physics, chemistry, mathematics, biology, engineering and other sciences give us accounts of the more reliable tendencies of relation. They give us rules of behaviour that we can more-or-less count on: glass will shatter in particular, mathematically defined conditions, a bridge will stand up according to conditions defined through simulations, one chemical will react with another in a certain way. But beyond a certain level of complexity, rule becomes probability and the possibility of prediction gets shakier the higher the degree of complexity. In the midst of this shaky ground, in walks emergence, a model that accepts the unknown and offers a new frame of reference.

For all its ultimate vagueness, the model of emergence makes one quite definitive move: it re-situates rules within dynamic and flexible fields of performance. The ground of action is a field textured with rules and tendencies, but defined by the dynamics of performative relations. Ways of understanding how the field is internally differentiated were discussed in this thesis through Stern's discussion of affect attunement and misattunement. These processes work with the basic material of vitality affects (patterned changes over time). Here, vitality affects become the infinitesimal 'element' or minute 'particle' of (temporal) form. These patterned assemblages of relation pass from one moment and media to another, modulating along the way like a game of 'Chinese whispers'. The pattern match is never perfect and, in fact, might actively modulate or

shift the 'meaning' it coercively enters into. This way of understanding the ongoing, endless modulations of the field of shared action (or 'the relations we live'), describes (coercively?) many other configurations discussed throughout this thesis, such as: the multitude of instances in an animation of morphological distortions; a field of work that describes a particular style; the movement of bodies dancing at a rave party. In these fields textured by similarity and difference, convergence and divergence, something else arises: resonance. This resonance has a *complexion* we might call 'atmosphere', 'style', 'character', 'texture' or 'quality', to name a few.

Affect is the performative glue whose adhesive power (in holding together 'space', material properties or characters) is based on rhythmic refrains of assemblages whose presence is powered by resonance. Assemblages interact, resonate, spread outwards and fold back inwards, bringing with them the affects of the specificities they encounter along the way. This occurs in waves that rise and fall, at many scales of mutual interaction. It's a complex weave in which we breathe.

I have discussed the translation of qualities in architectural design processes to explore affect attunements embodied through non-human media. The quality or complexion of the resonance becomes paramount, but the importance of the translation is not simply about moving desired qualities from one place to another, nor in generating a continuity between process and product. The value of achieving these difficult translations is that the multiple, variational instances form a transductive gathering: a pleating that puckers together layers of diversity and history into a collaborative gesture of resonating together (as in shared laughter).

Earlier, via Simondon and the example of moulding a brick, I explored the idea of internal resonance as the ontogenetic operation through which an intensive whole was formed. Resonance can be seen as a physical phenomenon that both exemplifies and offers some 'shape' for the operations of affect. Evan Thompson, for instance, describes affect as not just "a prototypical whole-organism event"⁵ but also a "prototypical self-other event."⁶ This emphasis, along with the organism-milieu relation emphasised by Simondon, defines the internally resonating 'whole-organism' as both distinct and inseparable from others/milieus. Things resonate with their own distinctness *as part of* their involvements beyond themselves. An 'intensive whole' is never a separate entity or closed whole – it is connected and 'continuous' with the world to the degree that it is defined as distinct.

5. "Affect has numerous dimensions that bind together virtually every aspect of the organism – the psychosomatic network of the nervous system, immune system, and endocrine system: physiological changes in the autonomic nervous system, the limbic system, and the superior cortex; facial-motor changes and global differential motor readiness for approach or withdrawal; subjective experience along a pleasure-displeasure valence axis; social signalling and coupling; and conscious evaluation and assessment." Thomson (2001), p4.

6. Ibid.

1.c. Aesthetics and the processual complex of vitality

Both emergence and composition theory are concerned with articulating rules, principles and general observations about how things 'come together' or become organized into something coherent enough for it to become a discernable thing. Forms of organization arise in ways that are never entirely in our control. Life itself is a supremely wondrous example and the living of life endlessly provides cases in point. Creative composition becomes similarly wondrous to the degree that it seems to hold or generate a *vitality*: that 'life-like' property of things that is afforded such status within aesthetics. But what is vitality, after all? It might be named 'beautiful,' but it might equally be grotesque or deathly. A key thing is *intensity*: a kind of resonance, where encounters, engagements and negotiations strike a chord, together. Affect, as I have argued, always involves resonance. And resonance always involves feedback loops, where that which emerges is always shifting about the relations from which it emerges.

When an architectural project really 'works' or 'sings' with vitality – in that it all 'comes together' – you have the satisfaction of witnessing a process of transformation that loops back into itself, through a resonance within its processual history and virtuality. This is why so many projects feel as if they are 'coming alive' when we find out more about what lies behind them. The surface of appearance of the project gathers depth and internal, virtual passages to explore. That which is produced makes sense of the fragments of its own history, by transforming them in terms of what it becomes. But this gathering of depth only comes from 'paying attention' to and engaging with the overall atmosphere of the thing, an attention that includes but is never limited to technical matters, pragmatic details and focused (or reductive) agendas. Attention, as quoted earlier from Peirce, "is the power by which thought at one time is connected with and made to relate to thought at another time."⁷ Through attention, temporal moments and ontological levels collide in the present moment, resonating in the affective complexion of the event. This kind of appreciation is the experience of emergence: an intrinsically aesthetic experience.

Aesthetics is densely populated with the question of what counts as 'beauty' or the 'beautiful'. Beauty is a category or a name for a *judgement* given to an affective texture. We feel an intensity – intense in the sense that it is strong enough for it to demand a felt response. But the nature of the response depends upon our ways of making sense (sensibility) and our related modes of engagement. The question of 'what is beauty?' has to dig

7. Peirce, (1992), p 44

deeper into the event or the process through which something is felt to be beautiful. Beauty is a category of feeling much like emotions. Emotions, as James, Massumi and Katz seem to agree, are affectivity rolled into a response.

This changes the problem of beauty, and other aesthetic categories quite significantly. It shifts attention from the categories themselves to the process through which they emerge and the conditions of their emergence. Across this thesis I have taken up a series of aesthetic categories – style, sensibility, composition – and recast them in these terms. I have tried to draw attention to the experience of processes: to the emergent processes of ontogenesis, involving diverse kinds of relational dynamics. Developing a greater awareness of the experience of these processes is important because this is the only access there is to their amodal, affective level of operation. ‘Observing’ the process and attempting to account for it through largely rational, cognitive frameworks, offers us boats on which to travel across such seas, as well as other structures that might help us invent new navigational tools. But these frameworks don’t, in themselves, offer access to the ever-present fields of influence that need to be assessed and negotiated in an on-going way.

2. The Poise of Ethico-Aesthetic Know-How

I have argued that processual architecture is a field of practice that implicitly enacts a reappraisal and reworking of modes of creative composition in which the operations of affect take on an amplified or more explicit role. This is related to ways in which the field foregrounds – in various ways and to different degrees – *processes of formation* as constituting key properties or defining conditions of the product, which is often framed as a processual system in itself. Processual architecture characteristically focuses on setting up conditions or generative systems through which outcomes will emerge. This often involves the inter-relational arrangement of behaviourally defined micro-components. The performance of the designer is met with dynamic, life-like diagrams that are themselves configured in terms of behaviours and performance. The strength of the life-like nature of these diagrams means that they become like puppets that the designer guides, but with enough in-built character to take a part in leading or guiding the way. In other words, the design material is not passive but explicitly pushy, involving a dynamic relationship between designer and the designed wherein each both affect and are affected by one another.

Composition becomes performative, more emphatically related to questions of experience and pertaining to form in terms of the dynamic relations in which it is engaged. In other words, rather than composition being about the formal arrangement of a facade, it pertains to the resonance that arises between multiple dimensions of its virtual and actual presence. The invisible relations holding together a composition, such as a system of mathematical ratios, become dynamically behavioural. While not precluding the possibility of remaining computationally describable at some level, this dynamic compositional glue becomes like an empathic feeling of pleasure modulated by the specific mannerisms that animate the face into a smile, rather than the formal arrangement of a smiling face. And like the dancer, the designer can't perform well without an attention to the transmission of affect between bodies and influences and a practiced grasp of a style of movement. While this is acutely important in the case of the designer, it is also relevant to the subsequent engagements of others with the design products.

By entering into a performative, dynamically relational terrain, ethico-aesthetic know-how becomes the fundamental compositional expertise that might develop these practices in productive and unexpected ways. Pedagogically, this becomes very significant, in that it raises the issue of how to help students develop the forms of know-how required. As

I suggested briefly in Act 8, this is less something that can be taught directly than ushered into the studio environment, through the manner of one's engagements with the students and the material they generate, and providing a framework that is both firm enough to provide constraint and responsive enough to adapt to material and issues that arise. This approach to teaching is difficult and risky but close to the practice that Kwinter discusses as the 'cultivation of life', where one must bear the knowledge that, as he writes, we cannot know "where such an experiment will go, and it is one certainly rife with traps and dead ends."⁸

8. Mau (2000), p 37

This calls for an ability to keep the risk alive while managing to recognise the dead ends when they arise, to twist traps into realisations, and to match firmness with sensitivity. But, perhaps what is most difficult about practicing (or teaching) in this way is that it requires an awareness of and sensitivity to one's own *consistency* or *texture of practice*, including both strengths and frailties (or fallibility⁹), such that one's design moves can work with enough sensitive openness or *affection*.

9. For a more extensive discussion on fallibility, see Ednie-Brown (1999).

A texture of practice is not contained by internality, but arises through all our actions, involving all kinds of engagements.¹⁰ *Context-sensitivity* has been discussed as integral to this awareness because it is inescapably about engagements *within* the tissue of particular circumstances. Rather than contextual, it is more precise to call the sensitivity *situational*, where the backdrop or background nature of 'context' folds into a more full-bodied, active 'here and now'. But the texture of practice cannot emerge (either be developed or enter into consciousness) without the transductions that occur *across* situations, instances, moments and events: through iteration. As such, a situational-sensitivity becomes a *trans-situational sensitivity*, or an ethico-aesthetic know-how of emergence based in a sensitivity to affect (and an ability to withhold from 'owning' or 'emoting' it).¹¹

10. Daniel Stern's *The Present Moment* suggests that our patterning or tendencies of behaviour, that might be described in psychological terms, are played out in our actions at the most everyday level. His micro-analytic interview, through which he demonstrates this relationship, focuses on mapping the experiences/events in a time frame as short as 30 to 90 seconds, while preparing breakfast.

This trans-situational sensitivity is also a sensitivity to affective diagrams: an ability to, as John Holland puts it, engage in 'metaphoric conjunction' where pattern matching across situations or conceptions resonate and generate a new affective texture. This does not necessarily lead to innovation as such, but it is integral to creative process. With *Intimate Transactions* and *The Shower*, the main 'thrust' of these projects, in terms of the affective diagram that they can be felt to embody, becomes dislodged quite emphatically from 'ownership' by any particular party, emerging through the dynamics of the relationships within the collaboration as much as the relations between the inhuman parameters of the projects.

11. "Reserve the term "emotion" for the personalized content, and *affect* for the continuation. Emotion is contextual. Affect is situational: eventually ingressive to context. Serially so: affect is *transsituational*. As processional as it is precessional, affect inhabits the passage. It is pre- and post-contextual; pre- and post-personal; an excess of continuity invested only in the ongoing: its own. Self-continuity across the gaps. Impersonal affect is the connecting thread of experience. It is the invisible glue that holds the world together. In event. The world-glue of affect is an *autonomy of event-connection* continuing across its own serialized capture in context." Massumi. (2002a), pToo-Blue

Trans-situational sensitivity dislodges the 'contextual' from the assumption that one stands back and observes things 'as-they-are', as if there is a fixed worldly essence to be found. Similarly, it erodes navel-gazing or self-absorption in which the kingdom of the self and its expressions reign insensitively supreme.

In part, one could say that its all about finding a 'balance' between the polar 'opposites' of all conditions (too much order and too little, tightness and looseness, the one and the many, etc etc). But these are less opposites than categories that define the limits of various states of relation. 'Balance' does not equate to stillness or sweet, peaceful composure, because it might tend more toward a wildly oscillating performance of relation. It is rare for situations to be free of struggles to connect, conflicts of interest/affect or obstacles to sharing/engaging. Extremes of these conditions lead to various forms of war, but milder instances are everywhere: in the dynamics of relation, relevant to political, social, personal and creative assemblages such as the design event.

If the embodied stance of a designer or a group of collaborators have a guiding role, it is because they channel transductions of affect, modulating them through engagement and negotiation with situations and media. The project (or reason for acting together) forms a mould in which they, as characters, relationally modulate the cast.

The virtuoso of ethico-aesthetic know-how will not only manage to walk the tightrope act, but to dance along it with a practiced grasp of a style of movement, preferably one that can turn the inevitable falls into productively generative moments. In that sense, the clown has as much to offer ethico-aesthetic know-how as the tightrope walker. As soon as any saintly overtones of ethics become situated, or part of the grit of everyday activity, the inconsistencies, contradictions, fault lines and fragilities become integral to the embodied consistency of any particular style. As such, I am certainly not claiming that processual architecture achieves some kind of ethically superior practice, or that any such ideality is achieved here, in this thesis. But I am suggesting that some especially useful frameworks, relevant to a continual striving for an ethics of behaviour, can be found in the field of architectural research addressed here.

There is no particular texture of overall composure that pertains to the ethico-aesthetics of emergence. There is no valorisation or romanticisation of beauty, elegance or the virtuous, 'balanced' poise. Compositional vitality is more often messy and grotesque, but this does not preclude a resonant 'holding together' across its orifices, gaps, internal disparity or

contradictions. In fact, I have suggested that ruptures of these kinds can *produce* and intensify vitality, as savage or as sweet as it might be.

There are, however, modes of relating that work against the ethics proposed here. Annihilation, obliteration or active suppression, for instance, are contrary to an ethics of striving for a balance between affecting and being affected. Group hysteria or collectively enacted erasure is as common in design events as they are in social formations, or individual people for that matter. Affective intensity can build and spread, capturing collective entities into fiercely-bound consistencies that might resist trans-situational sensitivity. Forms, figures and images snap together into an hyper- or over-attunement that becomes, in effect, formally imitative. This is sensitivity without the awareness, consistency of being without the becoming. While acts of obliteration actively sweep away virtual and actual realities (whether this be a species, an individual, an expression, a fact of feeling), it need not be a conscious act. In fact it often isn't, which is why awareness and sensitivity become so critical. But the overly sensitive and hyper-aware can be in danger of crumbling into self-obliteration without the coupling with an equally intensely held consistency of being and becoming (which one might call non-reactive 'self-confidence').

An ethico-aesthetic know-how of emergence is about a 'measured' practice of engaging with the world, of how we behave, of what we acknowledge is at stake. It is about the amplification of potential – which doesn't necessarily lead to the 'good' because it magnifies risk. Rather than being framed around the *virtuous*, ethical know-how is about the *virtuoso*: the skilled performer (Virno). The important principle or navigational directive is that the performance of any act strives for a balance between affecting and being affected, between active reflection and the immediacy of embodied response, between sensitive responsiveness and determined agency. This is a politics of action that neither caves in passively to collective desires or beliefs nor holds to individualism, authorship or dictatorship as the power of truth. It is both determined and respectful, pushy and playful. It involves raising both thinking and acting to their highest powers, such that they affect and fold into one another. Or, in short, it involves the embodiment of wisdom.

Ethico-aesthetic know-how has always been an integral aspect of daily life, in unremarkable and remarkably unrecognizable ways because it slips so seamlessly into the surface of appearances.¹² While this 'expertise' is nothing new, I have suggested in this thesis that it is becoming an increasingly important aspect of contemporary life, from the ways of

12. see Katz (1988), Katz (1999), Katz (2002).

doing at an individual level to global politics. This places pressure on each individual to develop a heightened awareness of that process, but it is also an incredible opportunity. The problem is that most of our responses happen faster than thought can know. But we can think-feel our way through our responses in retrospect until we can better feel-think our way through them at the time, or in the midst of them.

This is related to the problem of developing adequate ways of discussing or accounting for the sensual, affective experience of designing, as well as the experiential affects of built environments. Experiencing, whether in design acts or other inhabitations, are always events of flux, change, development, ongoing emergence: they are the *experience of emergence* and the reality of change. Faith in this metastable, sensitive consistency, that it is operating and informing one's moves, only comes from practice; from realising later what one didn't realise at the time, from coming to realise the repetitions across the variations and from feeling out the transformations across the ever-evolving repetitions. In other words, developing the trust required to throw oneself into the event of designing while knowing that this consistency will have bearing, comes only from having developed a sense of this consistency through the iterations of practice.

For the sake of pedagogy and discourse, an ability to express and develop heightened awareness of qualitative consistencies (and the 'structure' of resonant assemblages) – and of how one's moves are related to them – might enable processual architecture to more actively (and ethically) contribute to issues well beyond its usual focus on formally articulated virtuosity – by virtue of its virtuosic emphasis.

Or it might not. But it's worth the risk.

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- 5.30-31 Comparison of standard and non-standard formations.
- 5.30 Standard shower tap.
- 5.31 Pia Ednie-Brown, The Turn On (1998)
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- 6.21 Sanctuary interior under construction (1999), Presbyterian Church in Queens, New York (1995-1999), Greg Lynn. (photos taken by Pia Ednie-Brown)
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- 8.02 First four pages of the Skins of Intimate Distance catalogue (October 2003).
- 8.03 Advertisement for the SIAL Postgraduate Certificate program, for 2004 intake.
- 8.04 Bruce Mau Design, Promotion for the Power Plant, Contemporary Art Gallery, Toronto. Published in Mau (2000).
- 8.05 SIAL postcard.

- 8.06 Inger Mewburn, Relationship diagram of Skins of Intimate Distance configuration.
- 8.07 Schematic layout diagram of installation.
- 8.08 Poster for Intimate Distance visiting scholars program. Designed by Arianna Wilson.
- 8.09 Scene from the SIAL student lab during the Infoliations, virtools workshop run by Gow et al.
- 8.10 Part ceiling plan of Skins of Intimate Distance exhibition structure.
- 8.11 Skins of Intimate Distance installation with Boo Chapple inside the skin.
- 8.12 Making the latex skins.
- 8.13 Constructing the installation structure.
- 8.14 Too Close for Comfort, Boo Chapple, inside performance space.
- 8.15 Responsive Wall, Inger Mewburn, one version of the particle fall against a silhouette.
- 8.16 Responsive Wall diagram, Inger Mewburn.
- 8.17 The Nearness of You': a diagram, Ron Aveling (with Robert Salvatore).
- 8.18 The Nearness of You': a diagram, Ron Aveling (with Robert Salvatore).
- 8.19 Phantom Fingers, produced by Kynan Woodman, Jan-Oliver Kunze, Peter Ryan, Tim Schork.
- 8.20 The Live Presence Field, Inger Mewburn and Boo Chapple
- 8.21 Tacoma Narrows Bridge collapse, 1940, USA. <http://commons.wikimedia.org/wiki/Image:Tacoma-twisting.jpg>
- 8.22 Tacoma Narrows Bridge collapse, 1940, USA. http://en.wikipedia.org/wiki/Tacoma_Narrows_Bridge
- 8.23 Skins logo

- 9.01 Intimate Transactions main screen image. Two avatars can be seen wandering through the game, amidst the five creatures.
- 9.02 Intimate Transactions: two avatars co-joined (Stuart Lawson).
- 9.03 System Diagram of Intimate Transactions with haptic system and multi-user capacity.
- 9.04 Lisa O'Neil testing the new Intimate Transactions body shelf. Photo by Keith Armstrong.
- 9.05 Intimate Transactions at Kickarts, Cairns. Player collecting objects inside one of the creatures (player reflected on screen). Image Peter Cullin.
- 9.06 Diagram of hot + cold water reticulation system idea. Designed and drawn by Inger Mewburn.
- 9.07 Quiver pillow idea diagram. Designed and drawn by Inger Mewburn
- 9.08 The vibration actuator removed from a 'rumble pack'. Photographed next to mobile phone.
- 9.09 Inger Mewburn tracing the shape of my buttocks against the wall at SIAL, for the design of the spreader plates.
- 9.10 Paper stencil of the spreader plate shape and dimensions.
- 9.11 CAD drawing of new shelf assembly with spreader plates incorporated. Image Steven Curran.
- 9.12 The five Intimate Transactions creatures with avatar in the top left hand corner (by Stuart Lawson).
- 9.13 Naomi Raggatt working on one of the early prototypes for the haptic device garment.
- 9.14 Early prototype of the wearable device.
- 9.15 First prototype sent to the Transmute Collective. Worn by Lisa O'Neil. Photographed by Keith Armstrong.
- 9.16 Greg Lynn, frame from generative animation for the Artists Space Installation (1995). Published in Lynn (1999).
- 9.17 Intimate Transactions avatars (by Stuart Lawson).
- 9.18 The film includes a long sequence focussed on Barbarella's face as she passes into ecstasy. Published: www.robokopp.de/SF/barbarella4.htm
- 9.19 The Excessive machine blows up. Published: www.robokopp.de/SF/barbarella4.htm
- 9.20 Duran Duran with the muscial score to be played through the Excessive Machine. Published: www.robokopp.de/SF/barbarella4.htm
- 9.21 Laughter. Images from diverse sources.

- 10.01 Eva Hesse, Untitled (1968). Published in Sussman (2002).
- 10.02 Rachel Whiteread, Ghost (1990). Whiteread's casts became something of a sculptural equivalent to the way I thought about Mowson's idea of the 'sound mass'. Published in Lingwood (1995).
- 10.03 Inside the Shower.
- 10.04 Images from the famous shower scene of the Hitchcock film, Psycho.
- 10.05 The fog image derived from the Psycho shower scene.
- 10.06 The Shower rose shot from Psycho.
- 10.07 Image of dead Psycho herion in early conceptual 'sketches'.
- 10.08 Jeff Kipnis's 'School of Fish' display system-sculpture. Published in Bates;Davidson (1997).
- 10.09 'Flockers' by MASON software: an implementation of Craig Reynolds' Boids algorithm. <http://cs.gmu.edu/~eclab/projects/mason/>
- 10.10 Microscopic image of the structure of latex.
- 10.11 Pia Ednie-Brown, fur field (pencil on paper).
- 10.12 The House of Tomorrow' exhibition logo (2003)
- 10.13 The Jetsons. Published: http://en.wikipedia.org/wiki/The_Jetsons
- 10.14 The Flintstones. Published: http://en.wikipedia.org/wiki/The_Flintstones
- 10.15 An animated gif of this monster was one of the first things to appear on our project development wiki.
- 10.16 Examples of Mowson's work: 'Infracinema', 'Blue Balls' and 'Barney'. Documented on his web site, <http://www.brucemowson.com>
- 10.17 The first big skin, peeled off a shower recess.
- 10.18 Jane Caught peeling the latex off the shower recess.
- 10.19 The first big skin, peeled off a shower recess.
- 10.20 Photographs from early Shower working session tests.
- 10.21 'Touching Myself': photograph from early Shower working session tests.
- 10.22 The skin texture images used to cut the particleboard.
- 10.23 The first skin textured latex sample test.
- 10.24 Jane Caught and Aphra Ednie-Brown with the 'Jonophones': speakers adapted to operate as vibration actuators.
- 10.25 The rubber grommet 'nipples' in the process of being made.
- 10.26 Bruce Mowson inside the Shower. Images from a film shot through the ceiling fan.
- 10.27 Tim Schork and Jane Caught laughing about the curators' response.
- 10.28 Tim Schork and Jonathan Podborsek constructing the Shower.
- 10.29 The Shower exhibited at the Perth Institute of Contemporary Art (2005). Photo taken by Matthew Dwyer.
- 10.30 Images of The Shower exhibited at The Project Space, Mebourne (2004).
- 10.31 Perspex connection detail of The Shower (iteration 1, 2004).
- 10.32 One of the skin texture images used to cut the particleboard.
- 10.33 Hand against latex inside The Shower.
- 10.34 Latex sheet texture from first shower recess peel.
- 10.35-38 People engaging with The Shower at the Perth Insitute of Contemporary Art (2005). Photos taken by Matthew Dwyer.
- 10.39 Jacob Mohr, Proofs, c. 1910. The Prinzhorn Collection, University of Heidelberg. Photographer Manfred Zentsch. Published in The Prinzhorn Collection: Traces upon the Wunderblock (2000), exhibition catalogue, New York: The Drawing Centre.
- 10.40 Photograph taken by Bruce Mowson to indicate what The Shower might look like.
- 10.41 Greg Lynn, an Embryological House (1998-1999). Published at: www.glform.com
- 11.01 Cameron Robbins, Untitled (2005).

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