

# **The Aesthetics of Emergence**

processual architecture and an ethico-aesthetics of composition

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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."<sup>1</sup> 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.<sup>2</sup> 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.<sup>3</sup> 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,<sup>4</sup> 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.<sup>5</sup> 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."<sup>6</sup> 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."<sup>7</sup>

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."<sup>8</sup> 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."<sup>9</sup>

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.<sup>10</sup> 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."<sup>11</sup>

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 sociologist<sup>12</sup> 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.<sup>13</sup> 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."<sup>14</sup> (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,<sup>15</sup> 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'.<sup>16</sup> 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 cast<sup>17</sup> (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."<sup>18</sup>

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.