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idea journal

co-constructing body-environments

vol. 17, no. 02

2020

the journal of IDEA: the Interior design +
interior architecture educators' association



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**the journal of IDEA: the interior design +
interior architecture educators' association**

about

IDEA (Interior Design/Interior Architecture Educators' Association) was formed in 1996 for the advancement and advocacy of education by encouraging and supporting excellence in interior design/interior architecture education and research within Australasia.

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- (b) being an authority on, and advocate for, interior design/interior architecture/spatial design education and research.

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**co-constructing body-environments:
provocation**

Presenters at *Body of Knowledge: Art and Embodied Cognition Conference (BoK2019)* hosted by Deakin University, Melbourne, June 2019) are invited to submit contributions to a special issue of idea journal "Co-Constructing Body-Environments" to be published in December 2020. The aim of the special issue is to extend the current discussions of art as a process of social cognition and to address the gap between descriptions of embodied cognition and the co-construction of lived experience.

We ask for papers, developed from the presentations delivered at the conference, that focus on interdisciplinary connections and on findings arising from intersections across research practices that involve art and theories of cognition. In particular, papers should emphasize how spatial art and design research approaches have enabled the articulation of a complex understanding of environments, spaces and experiences. This could involve the spatial distribution of cultural, organisational and conceptual structures and relationships, as well as the surrounding design features.

Contributions may address the questions raised at the conference and explore:

- + How do art and spatial practices increase the potential for knowledge transfer and celebrate diverse forms of embodied expertise?
- + How the examination of cultures of practice, Indigenous knowledges and cultural practices offer perspectives on inclusion, diversity, neurodiversity, disability and social justice issues?
- + How the art and spatial practices may contribute to research perspectives from contemporary cognitive neuroscience and the philosophy of mind?
- + The dynamic between an organism and its surroundings for example: How does art and design shift the way knowledge and thinking processes are acquired, extended and distributed?
- + How art and design practices demonstrate the ways different forms of acquiring and producing knowledge intersect?

These and other initial provocations for the conference can be found on the conference web-site: <https://blogs.deakin.edu.au/bok2019/cfp/>.

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introduction: unknowingly, a threshold-crossing movement

Julianna Preston

Executive Editor

idea journal

It is in this special issue that the editorial board holds true to our promise to expand the horizons and readership of *idea journal* while reaching out to associated and adjacent art, design and performance practices and drawing connections to seemingly distant disciplines. The articles in this issue have provenance in a 2019 conference event, Bodies of Knowledge (BOK), which was guided by a similar interdisciplinary ethos. With an emphasis on cultures of practice and communities of practitioners that offer perspectives on inclusion, diversity/neurodiversity and disability, this conference, and this subsequent journal issue, aim to increase knowledge transfer between diverse forms of embodied expertise, in particular, between neuroscience and enactive theories of cognition.

This brief description suggests that there are shared issues, subjects and activities that have the potential of generating new understanding in cross-, inter- and trans-disciplinary affiliations and collaborations. My experience in these modes of inquiry points to the importance of identifying what is shared and what is not amongst vocabulary, concepts, pedagogies and methods. Holding these confluences and diverges without resorting to strict definition, competition or judgement of right and wrong often affords greater understanding and empathy amongst individuals to shape a collective that is diverse in its outlooks, and hopefully, curious as to what it generates together because of that diversity.

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The breadth of the knowledge bases represented within this issue necessitated that the peer reviewer list expanded once again like the previous issue. It was in the process of identifying reviewers with appropriate expertise that the various synapses between scholarly and artistic practices became evident. It is these synapses that shape sturdy bridges between the journal's existing readership, which is predominantly academics and students in interior design, interior architecture, spatial design and architecture, and the wide range of independent scholars and practitioners, academics, and students attracted to BOK's thematic call for papers, performative lectures and exhibitions. At the risk of being reductive to the complexity and nuances in the research to follow, I suggest that the following terms and concerns are central to this issue, aptly inferred by its title, 'Co-Constructing Body-Environments': spatiality; subjectivity; phenomenology; processual and procedural practice; artistic research; critical reflection; body: experience. All of these are frequent to research and practice specific to interiors. In this issue, however, we find how these terms and concerns are situated and employed in other fields, in other ways and for other purposes.

This is healthy exercise. To stretch one's reach, literally and metaphorically is to travel the distance between the me and the you, to be willingly open to what might eventuate. Imagine shaking the hand of a stranger—a somatic experience known to register peaceful intent, respect, courage, warmth, pressure, humour, nervous energy, and so much more. This threshold-crossing movement is embodied and spatial; it draws on a multitude of small yet complex communication sparks well before verbal impulses ensue. This significant bodily gesture sets the tone for what might or could happen. Based on my understanding of the research presented in 'Co-Constructing Body-Environments,' I propose that this is a procedure in the Gins and Arakawa sense that integrates theory and practice as a hypothesis for 'questioning all possible ways to observe the body-environment in order to transform it.'⁰¹ I call this as *unknowingly*—a process that takes the risk of not knowing, not being able to predict or predetermine, something akin to the spectrum of 'throwing caution to the wind' and 'sailing close to

the wind'. My use of the word 'unknowingly' embraces intuition where direct access to unconscious knowledge and pattern-recognition, unconscious cognition, inner sensing and insight have the ability to understand something without any need for conscious reasoning. Instinct. The word *unknowingly* also affords me to invoke the 'unknowing' element of this interaction—to not know, to not be aware of, to not have all the information (as if that was possible)—an acknowledgement of human humility. I borrow and adapt this facet of unknowingly from twentieth-century British writer Alan Watts:

This I don't know, is the same thing as, I love. I let go. I don't try to force or control. It's the same thing as humility. If you think that you understand Brahman, you do not understand. And you have yet to be instructed further. If you know that you do not understand, then you truly understand.⁰²

Unknowingly also allows me to reference 'un' as a tactic of learning that suspends the engrained additive model of learning. Though I could refer to many other scholarly sources to fuel this concept, here I am indebted to Canadian author Scott H. Young's pithy advice on how to un-learn:

This is the view that what we think we know about the world is a veneer of sense-making atop a much deeper strangeness. The things we think we know, we often don't. The ideas, philosophies and truths that guide our lives may be convenient approximations, but often the more accurate picture is a lot stranger and more interesting.⁰³

In his encouragement to unlearn—dive into strangeness, sacrifice certainty, boldly expose oneself to randomness, mental discomfort, instability, to radically rethink that place/ your place/ our place, suspend aversions to mystery—Young's examples from science remind us that:

Subatomic particles aren't billiard balls, but strange, complex-valued wavefunctions. Bodies aren't vital fluids and animating impulses, but trillions of cells, each more complex than any machine humans have invented. Minds aren't unified loci of consciousness, but the process of countless synapses firing in incredible patterns.⁰⁴

In like manner to the *BOK2019* conference which was staged as a temporally infused knowledge-transfer event across several days, venues, geographies and disciplines, I too, ingested the materials submitted for this issue in this spirit of unknowingly. The process was creative, critical, intuitive, generative and reflective—all those buzz words of contemporary research—yet charged with substantial respect and curiosity for whatever unfolded, even if it went against the grain of what I had learned previously. For artists, designers, architects, musicians, and performers reading this journal issue, especially academics and students, this territory of inquiry may feel familiar to the creative experience and the increasing demands (and desires) to account for how one knows what one knows in the institutional setting. ‘Explain yourself,’ as the review or assessment criteria often states. If you are faced having to annotate your creative practice or to critically reflect on aspects that are so embedded in your making that you are unaware of them, I encourage you to look amongst the pages of this journal issue for examples of how others have grappled with that task such that the process is a space of coming to unknow and know, unknowingly.

Figure 01:

Meeting the horizon; A still image from *Shore Variations*, a 2018 film by Claudia Kappenberg that reimagines *Waning*, a 2016 live art performance by Julieanna Preston. <https://vimeo.com/user11308386>.

There are a few people I would like to acknowledge before you read further. First, huge gratitude to the generosity of the peer reviewers, for the time and creative energy of guest editors Jondi Keane, Rea Dennis and Meghan Kelly (who have made the process so enjoyable and professional), for the expertise of the journal's copy editor Christina Houen and Graphic Designer Jo Bailey, and to AADR for helping to expand the journal's horizons.

Okay, readers, shake hands, consider yourself introduced, welcome into the *idea journal* house, and let's share a very scrumptious meal.

acknowledgements

I am forever grateful for what life in Aotearoa/ New Zealand brings. With roots stretching across the oceans to North America, Sweden, Wales and Croatia, I make my home between Kāpiti Island and the Tararua Ranges, and in Te Whanganui-A-Tara/ Wellington. I acknowledge the privilege that comes with being educated, employed, female and Pākehā, and the prejudices and injustices that colonialism has and continues to weigh on this land and its indigenous people. I am committed to on-going learning and practicing of Kaupapa Māori.

notes

- 01 Jondi Keane, 'An Arakawa and Gins Experimental Teaching Space; A Feasibility Study,' *INFLeXions* 6 (2012), accessed 29 October 2020, http://www.inflexions.org/n6_keane.html.
- 02 Alan Watts, *Creating Who You Are* (Video) (n.d.), accessed 29 October 2020, <https://vimeo.com/76888920>.
- 03 Scott H. Young, 'The Art of Unlearning' (2018), accessed 29 October 2020, <https://www.scotthyoung.com/blog/2018/04/12/the-art-of-unlearning/>.
- 04 Young, 'The Art of Unlearning.'

'how do I know *how* I think, until I see what I say?': the shape of embodied thinking, neurodiversity, first-person methodology

Patricia Cain

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abstract

I discuss what it's like to engage in an embodied/enactive creative practice, its qualities and values, and how neurodiversity might benefit research culture. As an Asperger's thinker with a creative, metacognitive thinking style, I have reached a point of asking through my art practice, *How do I make my cognitive difference visible?* Referring to my keynote presentation at the 2019 *Body of Knowledge Conference*, which was both an installation and a conversation about growing into the need for practice, this article takes the reader through the evolution of my thinking about practice as personal growth, to the point of commencing a new project, *Making Autistic Thinking Visible*. These findings suggest that there is need for research methodologies to be led and developed by different thinking styles, based in self-awareness, including the 'internal participatory' research model I suggest. My example contributes to a bigger picture of diversity in human cognitive variation, that can contribute to a more inclusive (consequently expansive) research culture, displacing standard norms which kill possibilities for different forms of knowledge.

cite as:

Cain, Patricia. "How do I know *how* I think, until I see what I say?': The shape of embodied thinking, neurodiversity, first-person methodology,' *idea journal* 17, no.02 (2020): 32–57, <https://doi.org/10.37113/ij.v17i02.400>.

keywords:

embodied thinking, autism, first-person methodology, creative research, neurodiversity

introduction

...what visual artists know and do and show, is closer to the heart of what visual perception is... drawing out into the visible, something that wasn't there as visible previously. Thus, the great genius of being alive, of having a brain, is to actually bring forth that reality.⁰¹

Francisco Varela

I am a visual artist and scholar from Scotland. My post-doctoral practice involves drawing and looking at how we grow and develop through creating. In my work, I make hidden aspects of thinking visible (e.g. creativity, experiential learning, neurodiversity). My projects over the last fifteen years are connected by my meta-cognitive thinking style: I make my own (and others') experience of making visible as the artwork through mapping, digital modelling, narrating and curating studio work, shifting importance away from 'artefact' to 'development of artist.' In this context, the mapped thinking/creative process and my contextualisation of it through curation becomes the artwork. This meta-reference looks beyond the material content of the work: it is a thinking style that is characteristic of my form of autism.

This article is developed from a keynote lecture at the *Body of Knowledge: Art and Embodied Cognition Conference 2019*, which comprised an installation called *Thinking Room* and a discussion about

growing into the need for practice. A first-person methodology contextualises my art practice as embodied or enactive, and gives insights into the thinking process behind my art. In this article, I discuss the qualities and values of an embodied or enactive creative practice by asking what it's like to engage in this kind of practice (including its challenges, failures, and learning). How might embracing and utilising social neurodiversity benefit the structures/organisation of research culture more generally?

Figure 01:

Four walls of *Thinking Room* installation, *Body of Knowledge Conference 2019*, Deakin University. Patricia Cain, 2019.

The *Thinking Room* installation was created by four walls, each featuring a different project using a first-person methodology to make emergent thinking visible (Figure 01). The fourth wall (where this paper begins), imagines a new project, *Making Autistic Thinking Visible* (funded by a Creative Scotland Award), which considers, among other things, what a self-referential methodology led by autistic characteristics might look like, and looks back at the evolution in my thinking and the development of my methodology.

wall 4: making autistic thinking visible

Two years ago, I received an unexpected late-adult diagnosis of Asperger's Syndrome (which sits on the autism spectrum). This prompted me to look at ways of communicating cognitive difference. Like others who have received an ASD (Autism Spectrum Disorder) diagnosis, I have been recalibrating my identity, and more generally, considering why individuals have such diverse thinking styles.

Wall 4 demonstrates, in diagrammatic drawings and an animated 3d mind-map, the characteristics of my autistic strengths and/or challenges (Figure 02). In making these, I am contextualising what I already think I know by making visible the growing act of 'informare' (or creating information from within).⁰²

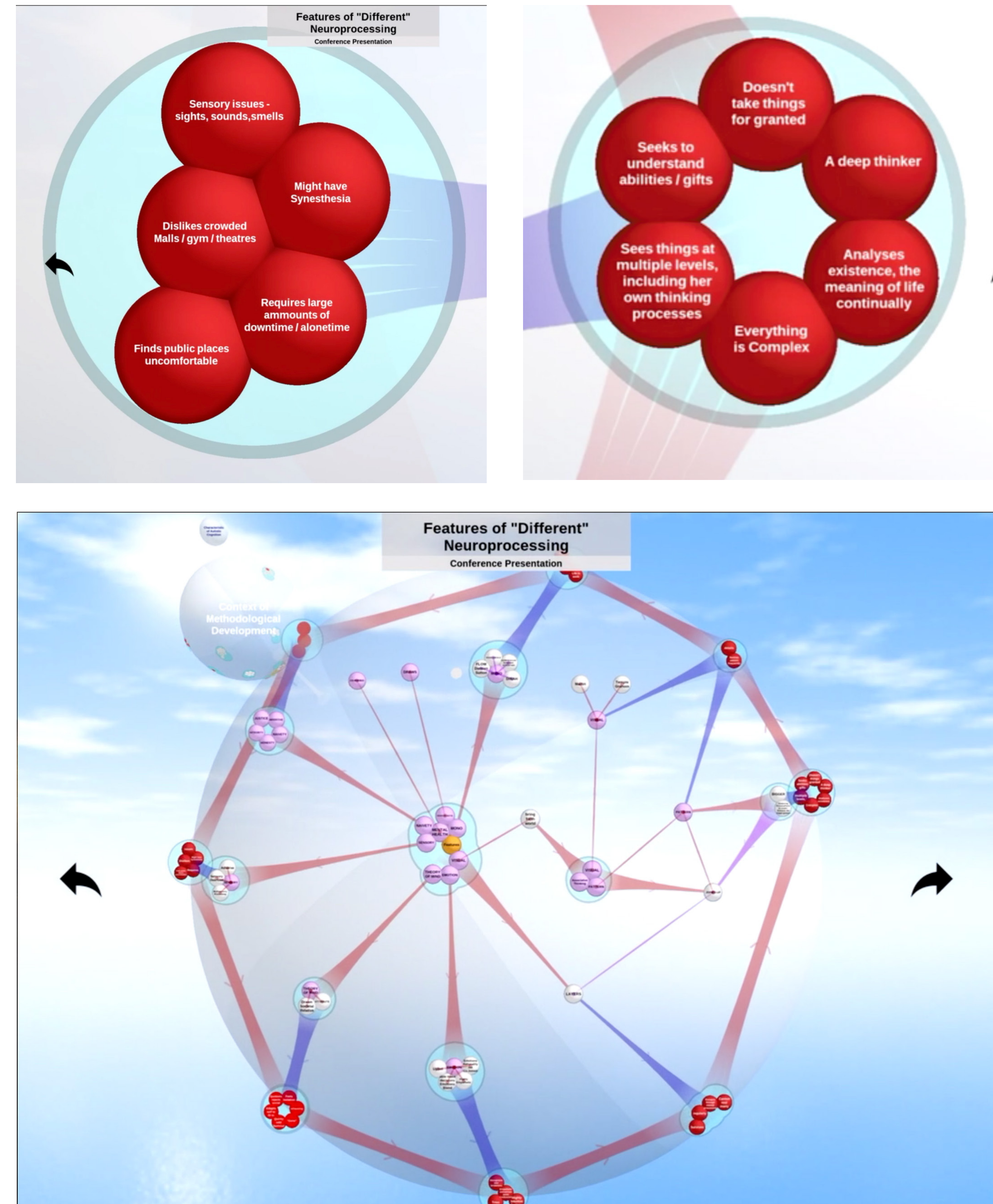


Figure 02:
Stills from animated 3-d.
Thortspace© mind-map 2020.

ASD is an invisible neuro-biological disorder affecting social interactions, levels of focus/attention, sensory qualities, and communication.⁰³ ASD in females may present differently to that in males, and the diagnostic criteria are somewhat behind in reflecting this.⁰⁴ The Asperger Syndrome subtype has fewer developmental and language issues.⁰⁵ Each person has a unique constellation of characteristics. 'If you've met one person with autism, you've met one person with autism.'⁰⁶ Additional evidence suggests a high incidence of neurodiversity in creative people.⁰⁷

The medical model contextualises autism as deficit and disability, in which someone with

ASD doesn't fit the societal 'norm,' and locates the problem within the person (pathological).⁰⁸ Many consider autism as difference, i.e. 'different' cognitive processing, whereby the problem of being different is interpersonal, i.e. external to the person. Thurman describes the causal consequence of this difference as: 'different processing → (uses) different filters/interpretation → (that leads to) different outcomes/values.'⁰⁹

This trajectory might easily become disabling when systems are either designed to be generic as opposed to fitting the individual, or where outcomes/values are not a natural progression of one's style of cognitive processing. If individuality of thinking style is embraced, however, the 'disability' could become an advantage and a benefit to all.

Like others, I often experience my constellation of characteristics as 'not fitting in.' Acute sensory sensitivity in busy social or unfamiliar environments is overwhelming, creating barriers to networking and social interaction. Just as challenging is the perception that other people often aren't attuned to my ideas. It's as if they can't hear what I'm saying because my processing is different. I might also experience difficulty in reading what people think when they don't say what they mean—known as 'Theory of Mind,' i.e. the ability to represent mental states in other people.¹⁰ Many people have felt the painful effect of these unspoken experiences; the continuously naïve autistic personality, however, can be emotionally overcome by them.

There are numerous examples where societal 'norms' are valued above independent thinking and why organisations reject neuro-diverse thinkers. These include 'groupthink,' 'cultural fit,' top-down systems, the pervasive monetary economy, and 'accessibility and allowances' models designed to 'compensate' for autistic thinking in 'neurotypically' designed processes. These mechanisms effectively hide the strengths of 'different' cognitive processing. Like others, I often disguise my true cognitive persona through intellectual compensation and masking,¹¹ to fit into the culture these systems inhabit, including research culture. Having to cognitively contort the veracity of one's identity creates a stress continuum that has a huge impact on life and denies opportunities. This balancing act is important, because neurodiversity is a matter of personal authenticity—if thinking is to have integrity for individuals, it is important to align one's inner and outer self, and it may be more important for neurodiverse thinkers to reconcile this duplicity than it is for mainstream thinkers.

When insights/skills are made invisible by society's systems, not only does the community lose the benefit of their creative input, but those who are cognitively 'different' don't get the opportunity to grow. As an artist/educator, I'd like to see everyone as individuals enabled to develop their unique cognitive strengths. My questions, as a 'different' thinker, are:

- + How can we enable different cognitive processing in our organisations/systems?

- + What methods could make different cognitive processing visible?
- + How can I make my cognitive 'difference' visible?
- + Can I share the collaborative construction of experience with others?
- + How can systems and processes for artistic (and other) research respond to neurodiversity; what forms might this take?

Approaching these questions through a practice-led PhD¹² which investigated the extent to which I could understand my own creative process by thinking within the medium of drawing,¹³ this deep learning experience led me to a similar conclusion as Francesco Varela came to: that we are (all) differentiated by our cognitive uniqueness.¹⁴

wall 1: drawing and enactive thinking: making visible how I draw forth my world

There has long been a fascination among scientists with investigating those who think in images.¹⁵ The inscrutable nature of visual thinking, its hidden qualities, indescribable features, subjectiveness and lack of standardisation or single visual language¹⁶ have been said to defy scientific study, much of which has been undertaken through arms-length, 'third-person' scientific methodology:

...third-person descriptions concern the descriptive experiences associated with the study of other natural phenomena. ...Their defining characteristics refer to properties of world events without a direct manifestation in the mental

sphere; they can only be linked to this sphere indirectly...¹⁷

Visual thinking, however does not necessarily imply artistic content: artist, writer and curator Deanna Petherbridge talks about a deeper aesthetic to thinking style being revealed if one focuses on process.¹⁸ Professor of Photographic History Darren Newbery puts the case that 'Images are not ideas in disguise, they are intellectual propositions in themselves.'¹⁹ So, what does neurodiversity look like? Is it more than simply artistic or creative thinking?

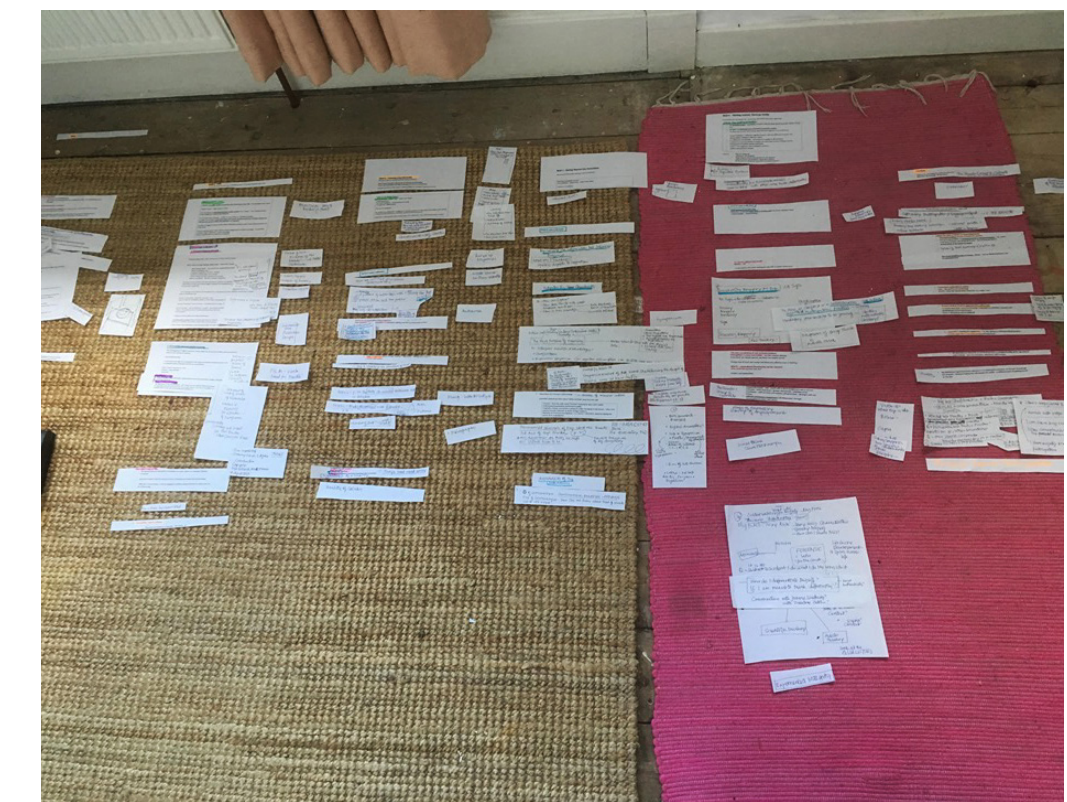
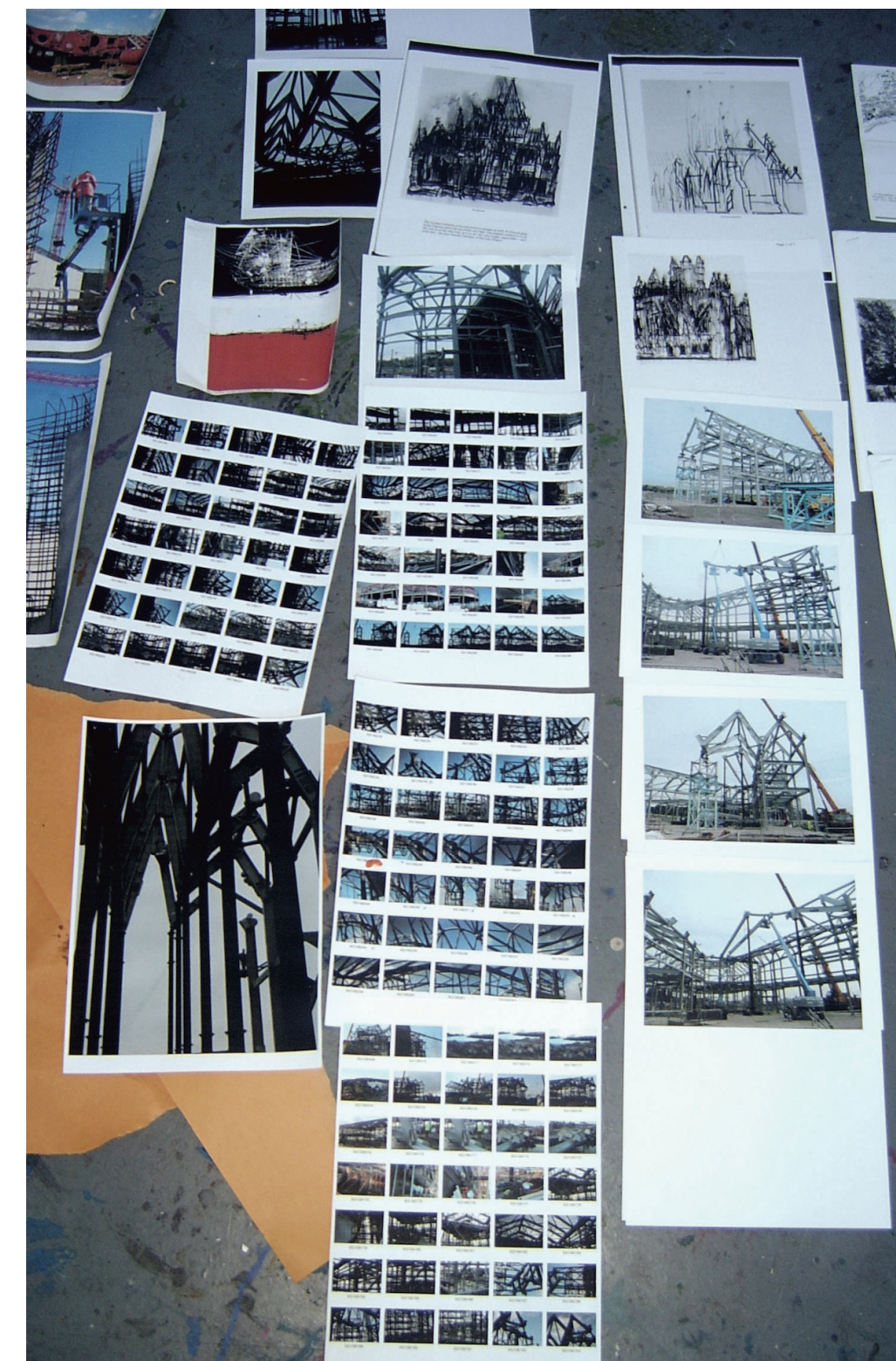
The unusual amount of focus and attention I give to my projects—acknowledged spectrum characteristics—is evident in the intensity, detail and scope of my work (Figures 03 and 04). Their diversity and depth might also be accounted for as 'special interests'—another autistic characteristic.²⁰ I believe these characteristics are strengths that can enable visual scholars to push the boundaries which limit current research culture.



Figure 03:
George's Walk (Panels 9-11) Pastel,
315 x170cm. Photo: Euan Adamson,
2018.



Figure 04:
Riverside Triptych Pastel, 315
x170cm. Photo: Lorna McIntyre,
2011.



Similar to autistic advocate (and animal scientist) Temple Grandin, I have a connective pattern/network thinking style (which not all artists have), that enables me to give focussed attention to detail whilst interchanging seamlessly and constantly to see a bigger picture. Grandin has suggested that autistic thinking falls into three types: visual, verbal/ logic, music/maths (pattern). She says, 'To form concepts, I sort pictures into categories similar to computer files. My mind is associative and doesn't think in a linear manner.'²¹

Like Grandin, I need to see things to process information, but further, I also need to create visual things (often in spatial ways) in order to see what I think (Figure 05). The recursive circularity of this is also noted in the process of writing by E. M. Forster, when he said 'How do I know what I think until I see what I say?'²² This suggests that knowledge formation is the act of making the unknown visible, rather than envisioning a predetermined idea. By unknown, I mean something literally unknown to you, or anyone, until you have an interactive relationship with what you are creating.

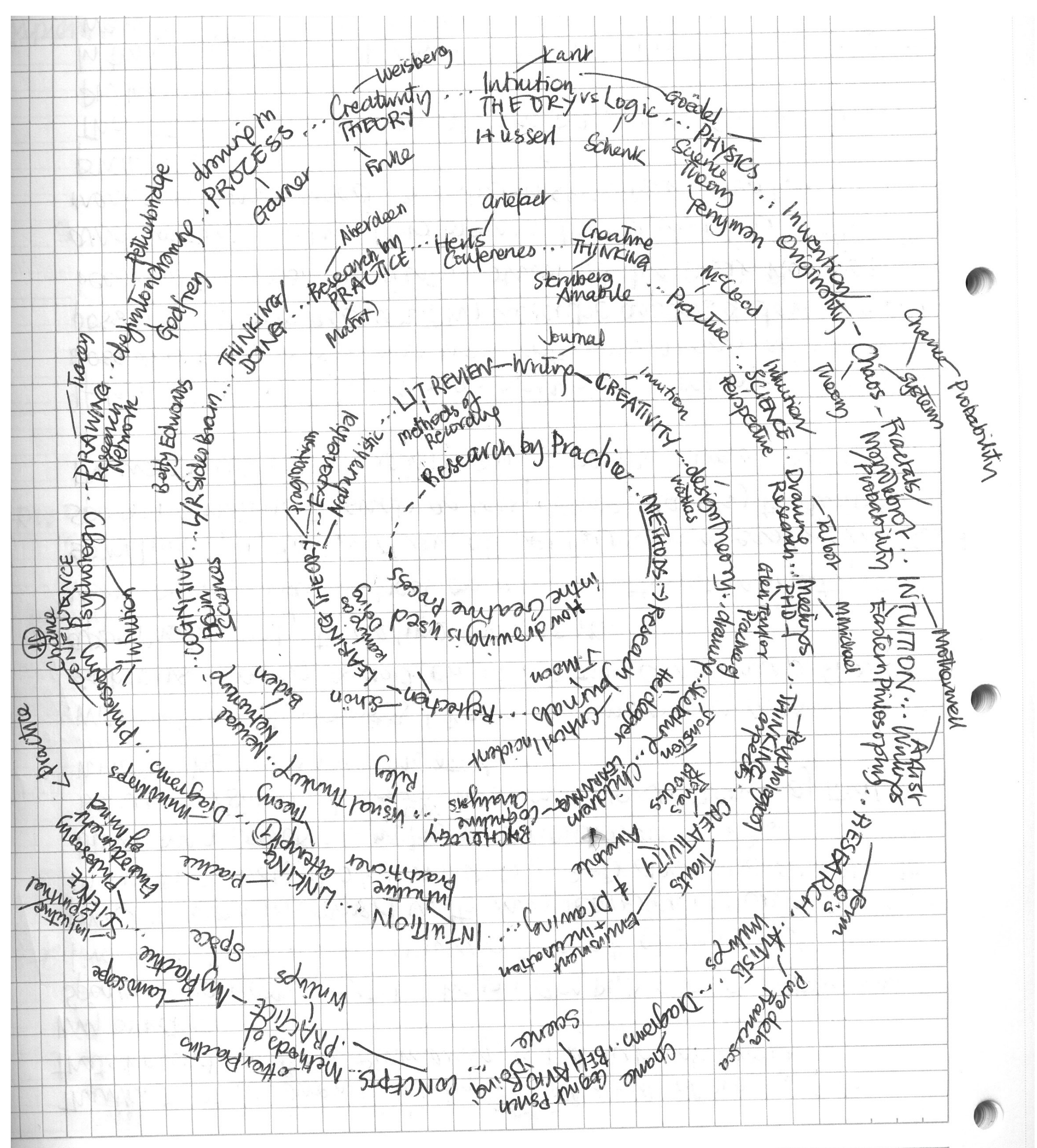
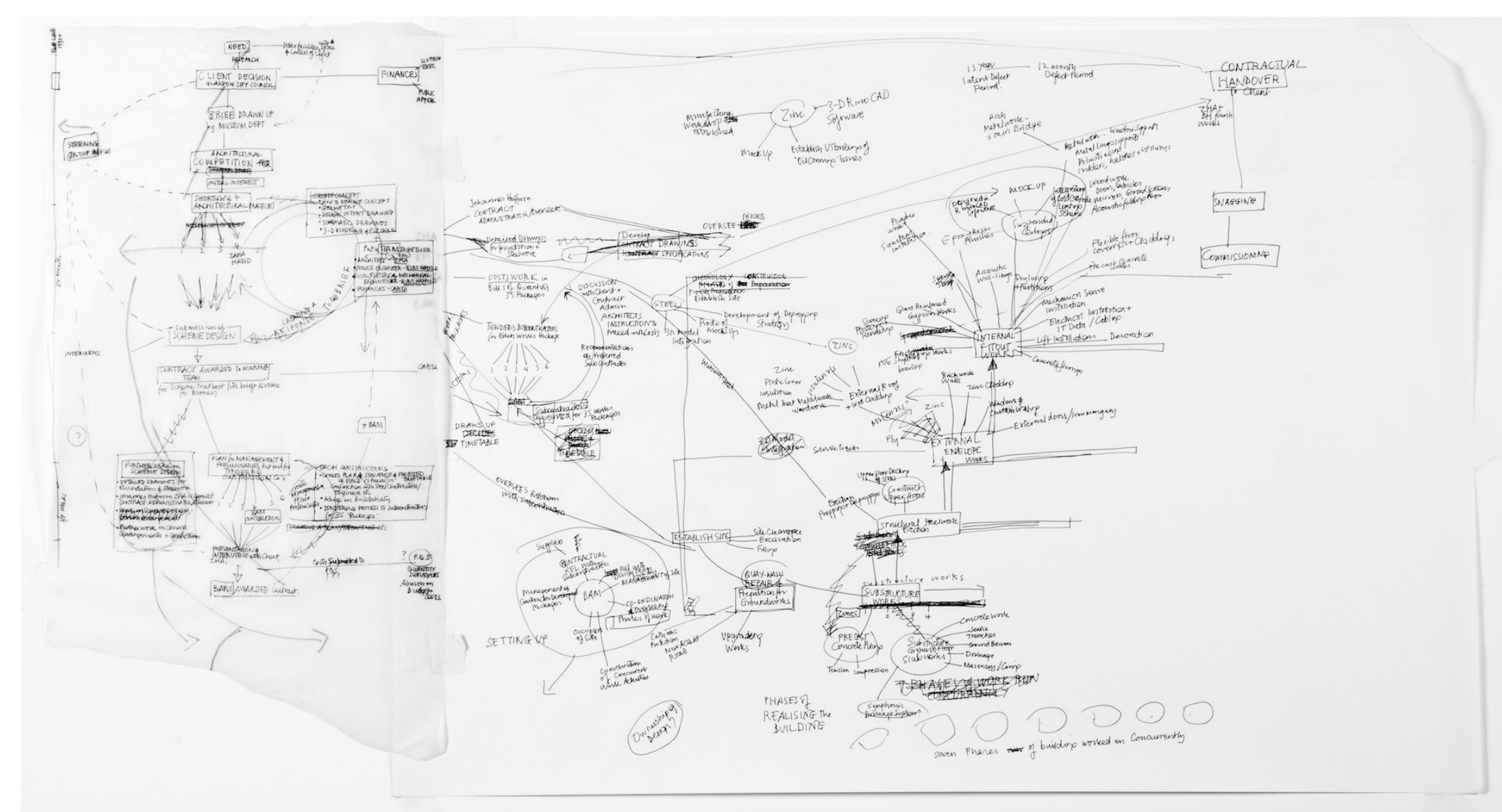


Figure 05:
Examples of my visual/associative
thinking style, 2004-2010. Images:
Patricia Cain, 2019.

Wall 1 of the installation focuses on my account of becoming aware of how I construct what I know through drawing, and how I derive my own world through interrelations with my environment. Through the narrative of my PhD and subsequently in the book, *Drawing: The Enactive Evolution of the Practitioner*,²³ I demonstrate that drawing is a self-supporting practice of learning that reveals the need to engage in practice (Figure 06).



Figure 06:
Thinking Room installation, Wall 1,
Deakin University. Photo: Patricia
Cain, 2019.

Wall 1 recreated a viva studio presentation where my subject matter was *How I think as I draw*. Having recognised that my lived experience of studio work seemed incongruent to theoretical explanations, I asked: 'Can I embody another artist's mindset by copying their drawing?' The PhD was not really about drawing; it became my account of *becoming aware* through the transformational experience of drawing, and how this occurred within the parameters of 'research.'

Copying, as an activity through which this transformation occurred, is a time-honoured 'visual to visual' method used by artists, involving 'learning through imitation.'²⁴ I spent three months familiarising myself with the method, finding that copying to learn is not about replicating or transcribing an artefact, but displacing habitual drawing practices. I had to bypass the literal content of the work to re-enact the quality of the gesture of a mark, to enable me to convey its particular energy or 'essence.' Doing this made me aware of changes in my attention.

Central to the copying project was a drawing called *Glass* by the artist Richard Talbot. His complex, technical, three-point perspectival drawing suggested a method that was highly pre-determined. In interview, however, he talked about his process as 'unplanned and intuitive...When I'm setting out to do the drawing, I don't have a pre-conceived image... I might have a hunch... the image that finally arrives on the paper comes about through me making decisions on the paper...'²⁵ Unable to inhabit his experience from this verbal description, I made a first copy (Figure 07). His straight and measured lines were inscrutable and there was an overwhelming sense of construction. The gesture of his straight lines, however, did not reveal the decisions behind how they were made.

Comparing the pencil lines of *Glass* with Rubens' very different language of mark-making in *Study for Abraham and Melchizedek* (Figure 08) involved me closely observing how the different qualities of lines were physically manifested. Recreating Rubens' marks

involved groping, approximation vs. exactness, and sensitisation—I felt his moments of attention and dis-attention. Talbot's non-gestural marks of plotting, placing, junctions, notation were harder to understand, because a sense of imitation overpowered that of physical engagement.²⁶ This resonates with Ingold's premise that knowledge is integrated along a line of movement;²⁷ simply travelling between lines and points fixes the parameters of what can be known.

Analysing Talbot's process further, I broke down nine key stages of his drawing on acetate paper (Figure 09). I next asked: What was the purpose of the stage? What kinds of

decisions is Talbot making here? What are the key qualities of his method? His circular plan, for instance, created a base to set up the drawing, creating a fixed anchor with relationships between six circles (Stage 1 in Figure 09). The grid-oriented second circle indicates a major decision to extend into new space by transferring measurements (Stage 7 in Figure 09). A later inventive stage was drawn in a freer style, indicating more open decisions as the drawing progressed (Stage 9 in Figure 09).

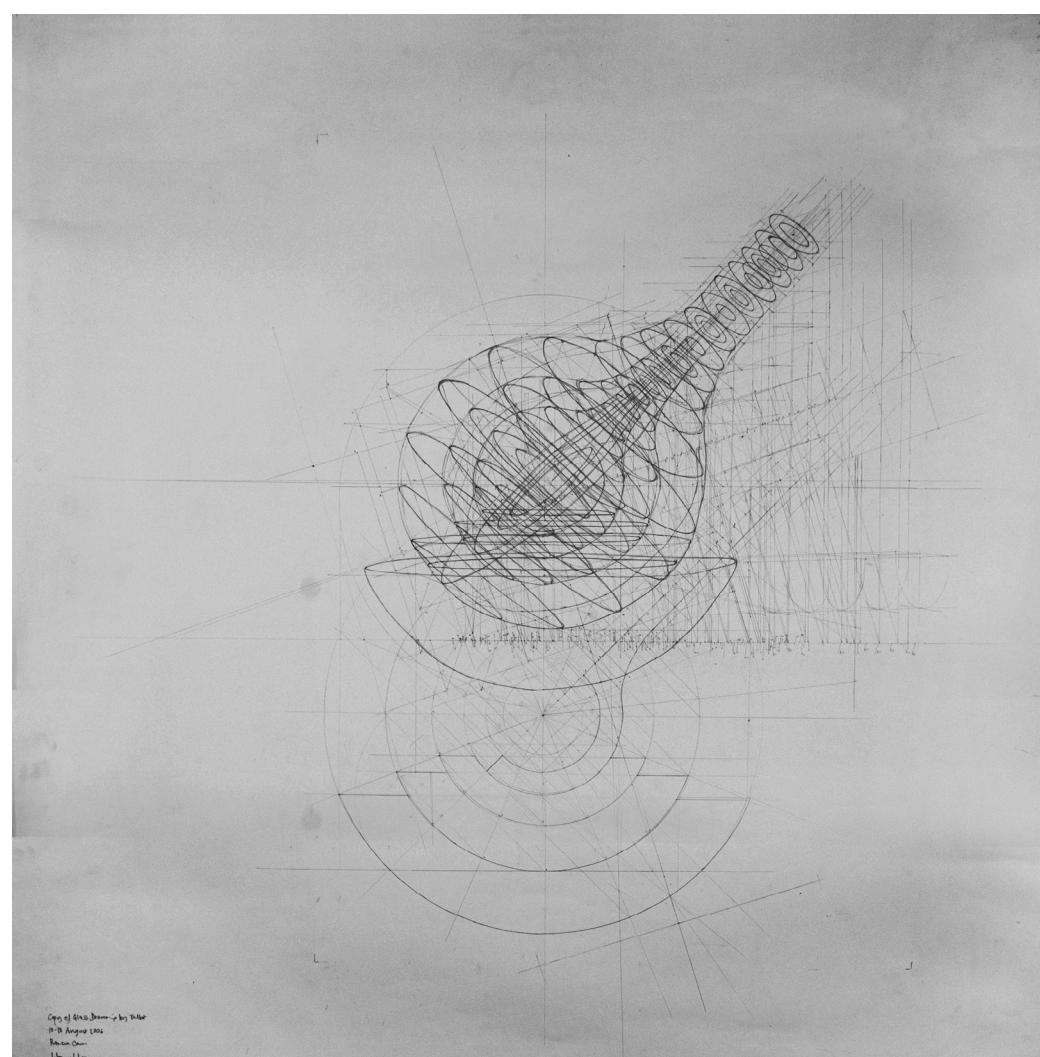


Figure 07:
Glass Copy by the author after
Richard Talbot. 110 x 110cm Pencil
on Fabriano. Photo: Patricia Cain,
2007.

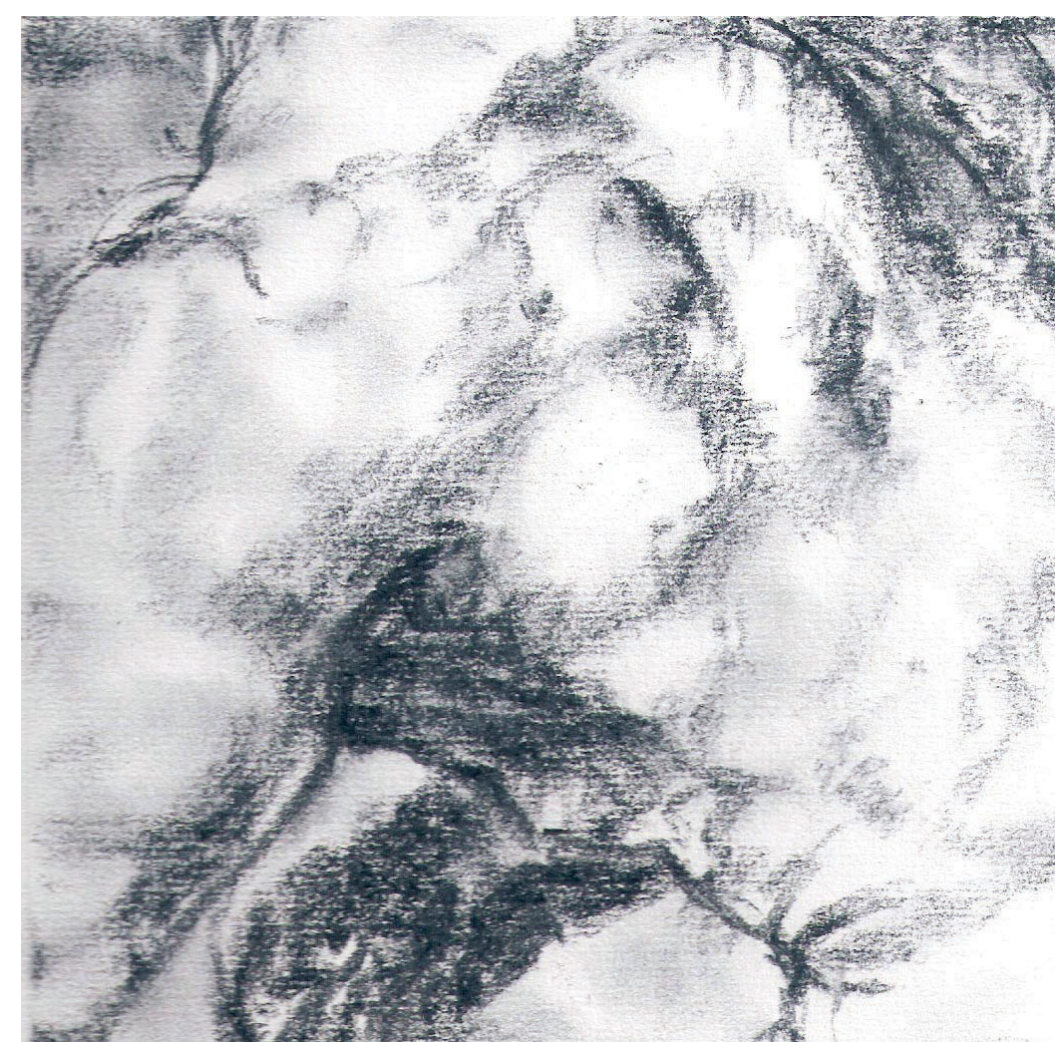
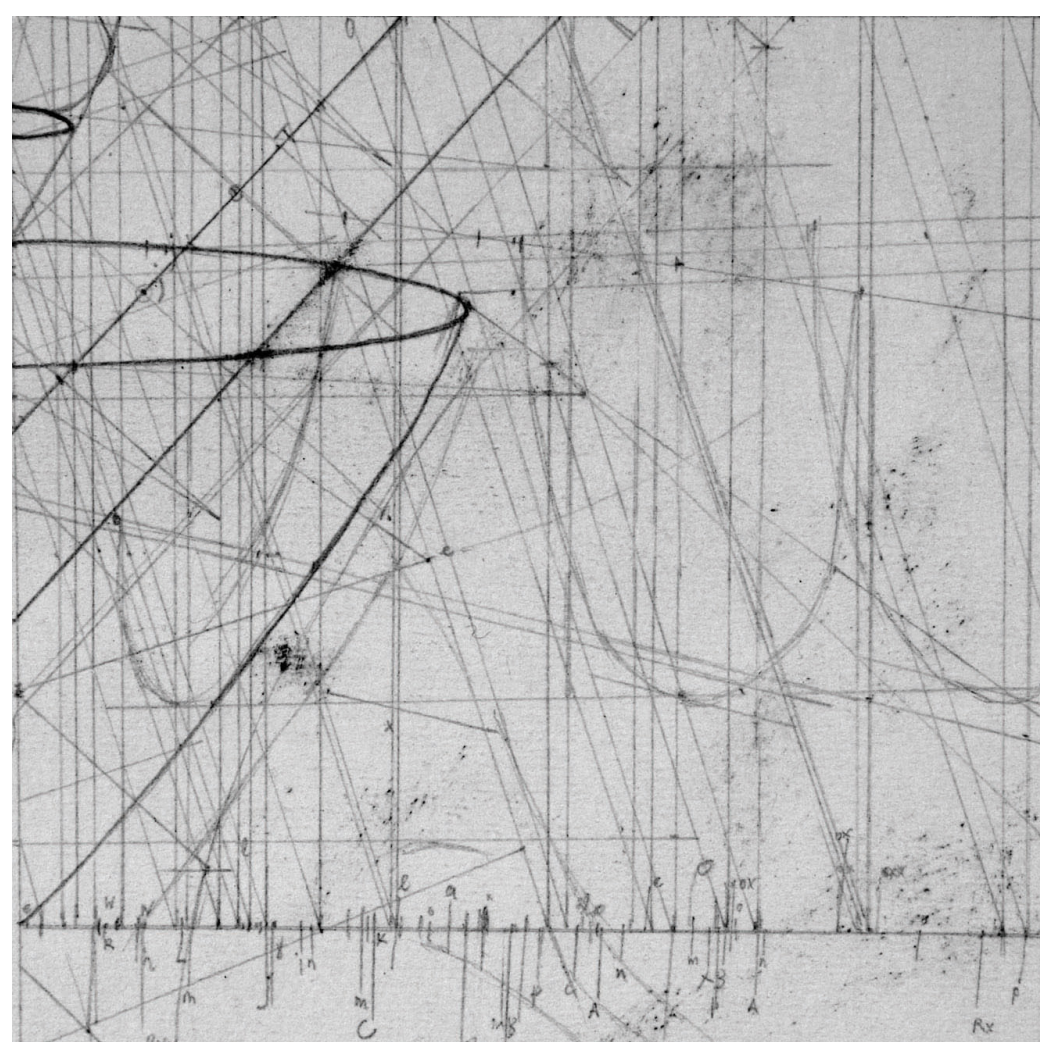


Figure 08:
Comparing mark-making by Talbot
and Rubens. Photo: Patricia Cain,
2007.

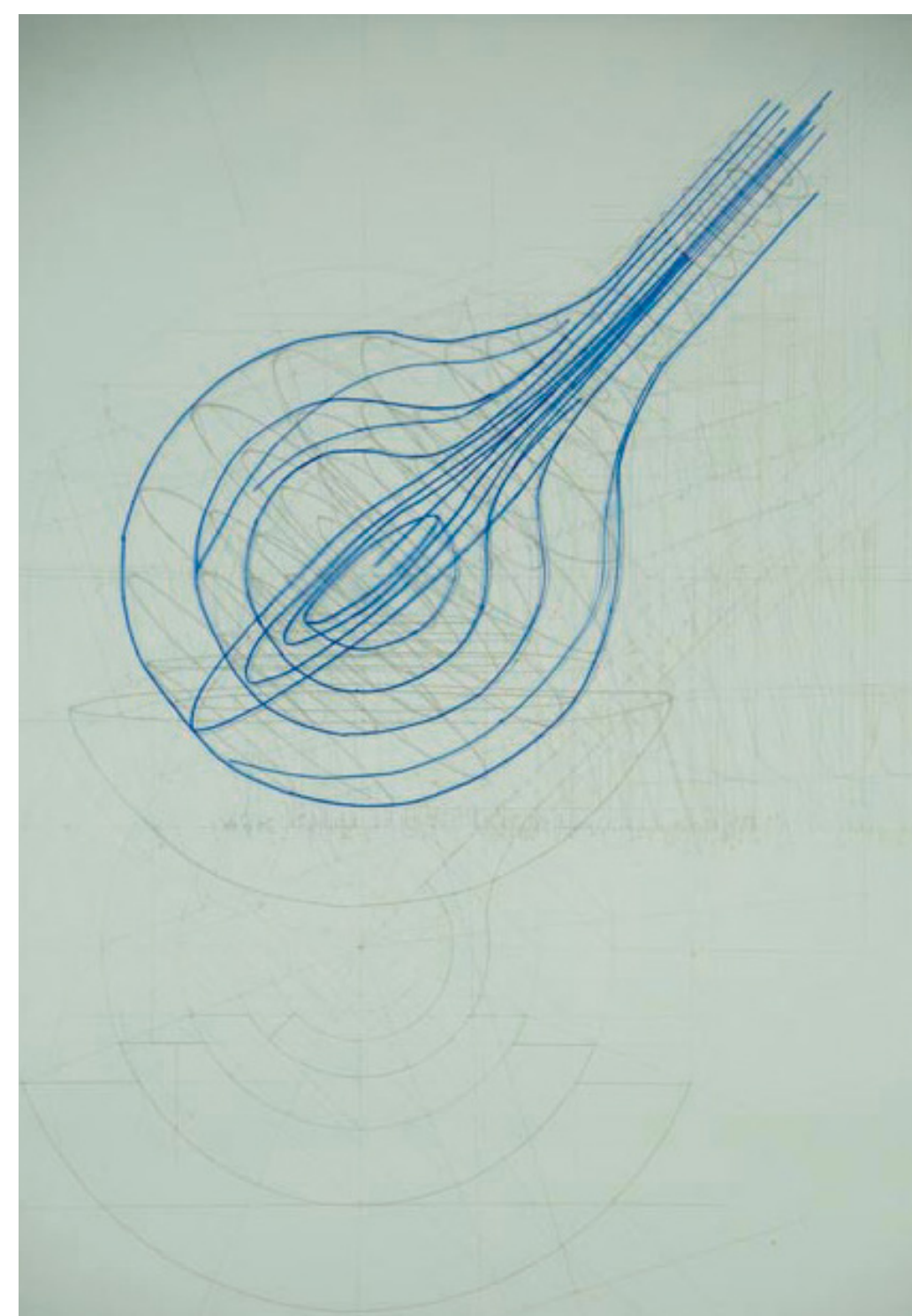
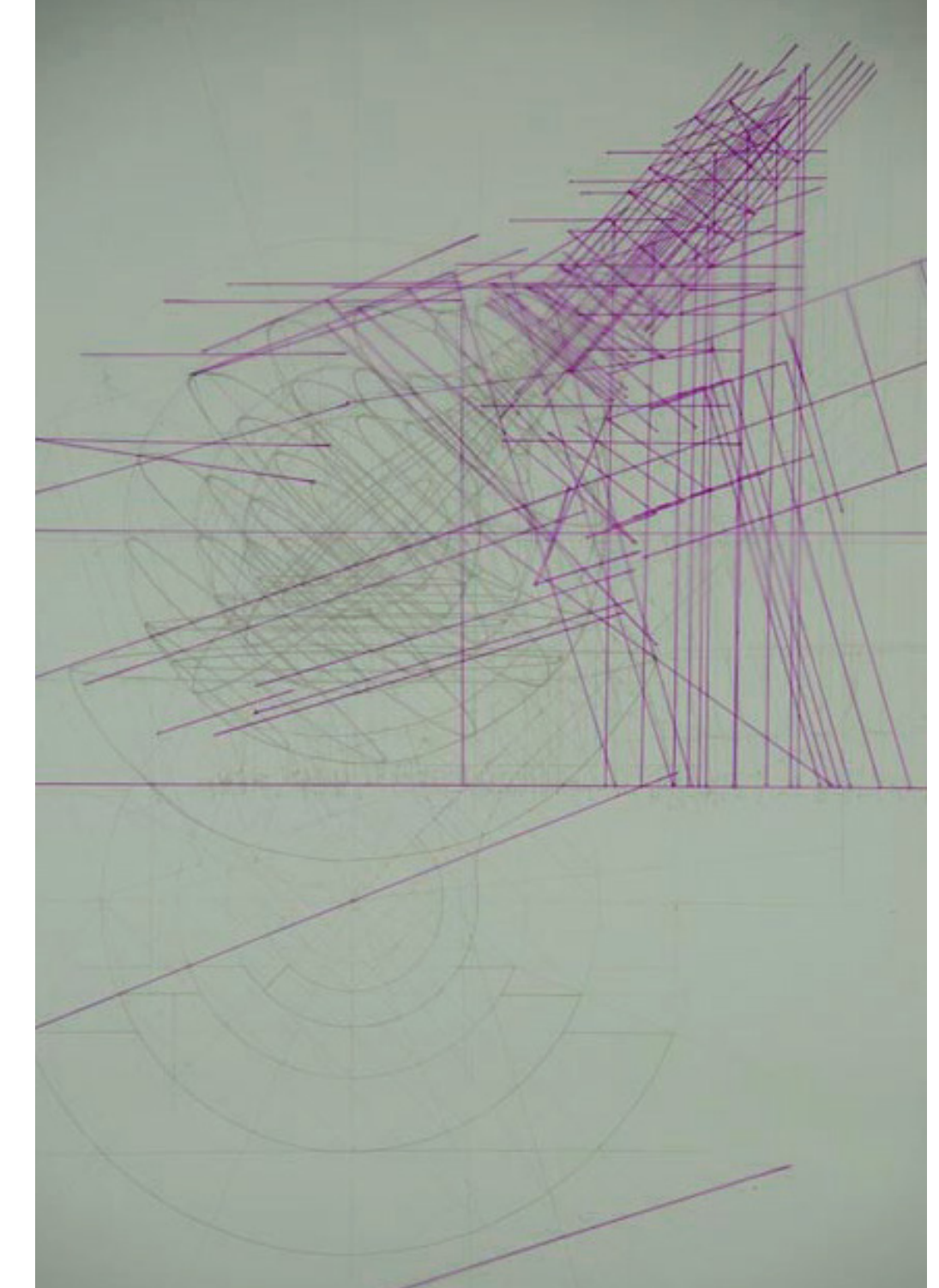
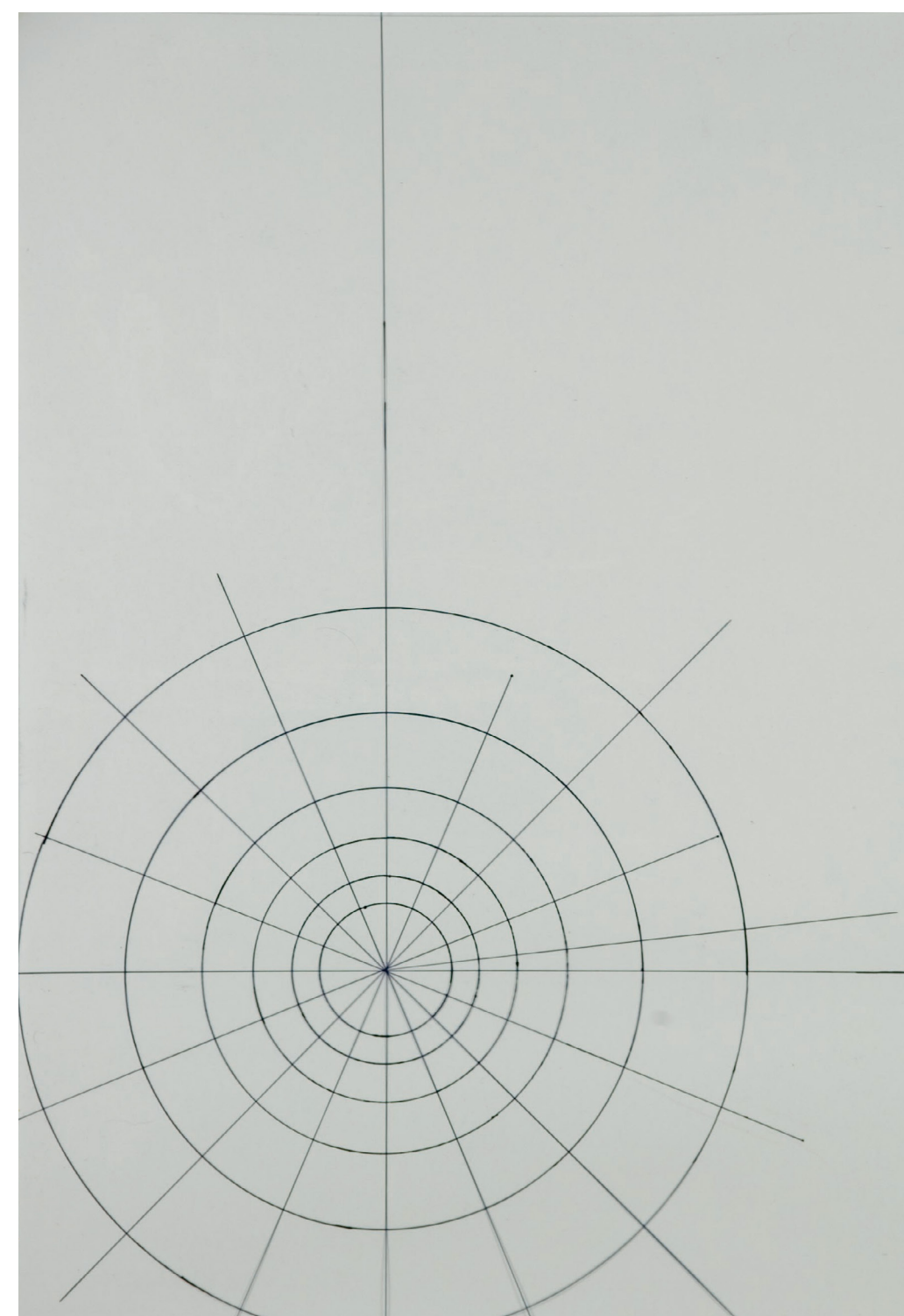


Figure 09:
Three of nine key stages of my
analysis of Glass in acetate
drawings, Stage 1, 7 and 9. Photo:
Patricia Cain, 2007.

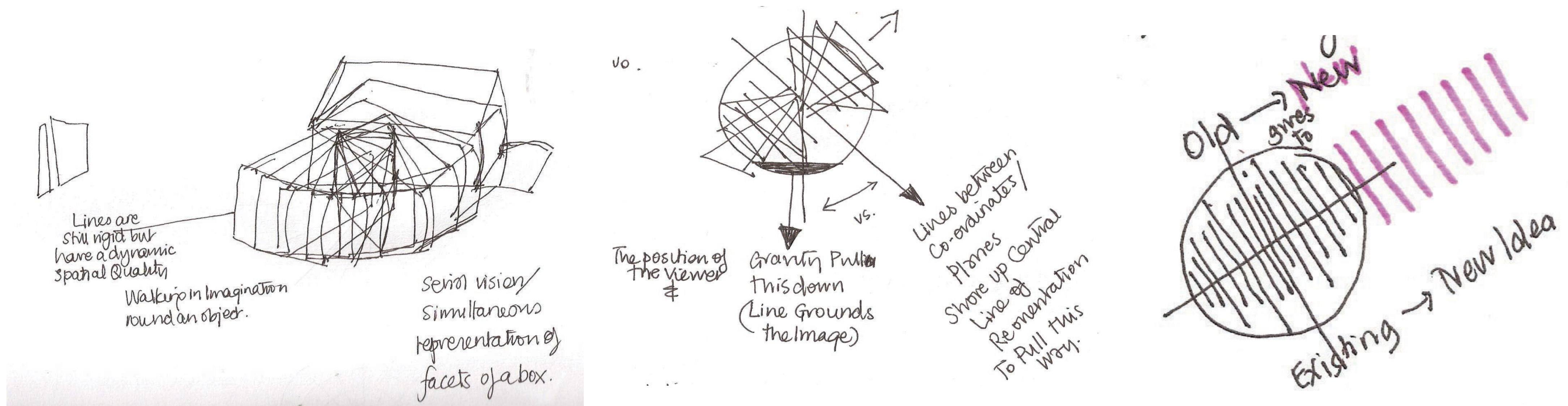


Figure 13:

Each mark created a dynamic between determinate and indeterminate, so that mark-making became a highly suggestive act that requested a response from its maker. Balance and imbalance were an important part of this dynamic. Photo: Patricia Cain, 2007.

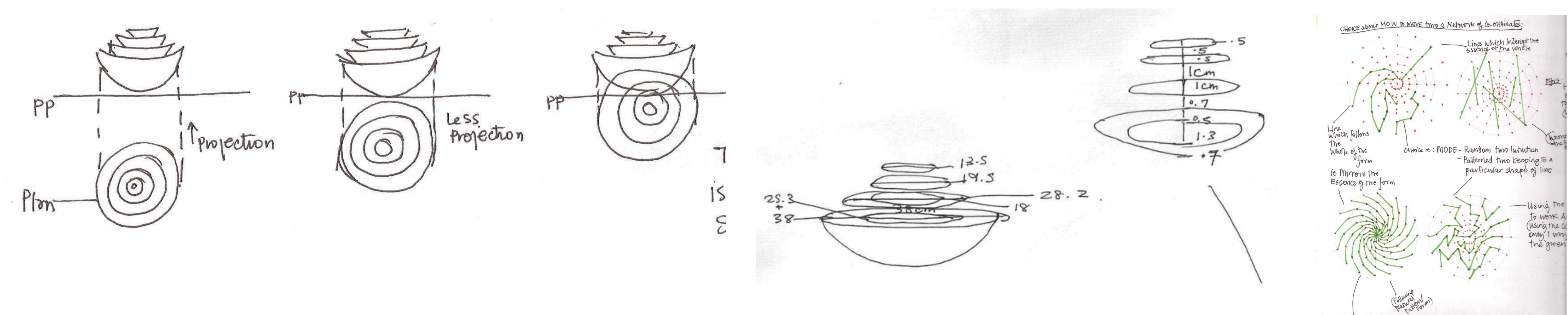


Figure 14:

The continued growth of space and possibilities along extended lines allowed for improvisation within the space as it became created. Photo: Patricia Cain, 2007.

By reducing *Glass* to its basic elements, it became evident that I was also investigating the basic components of drawing. Talbot's 'architecture of thinking' revealed itself in the way he constructed an equilibrium between movement and countermovement in lines and points, both active and static. I saw how he used perspective drawing as a framework in which he and the drawing co-evolved, because the drawing's evolution came from a complex array of decisions and judgements

between himself and his creation (Figure 15).

Lastly, I took what I had bodily learnt from each stage into my own practice to make a series of 'wall drawings,' trying to not over-analyse, but just draw what my body directed (Figure 15).

Making these, a journal entry at my lowest point witnessed a turning point and recorded a transformation in my understandings:

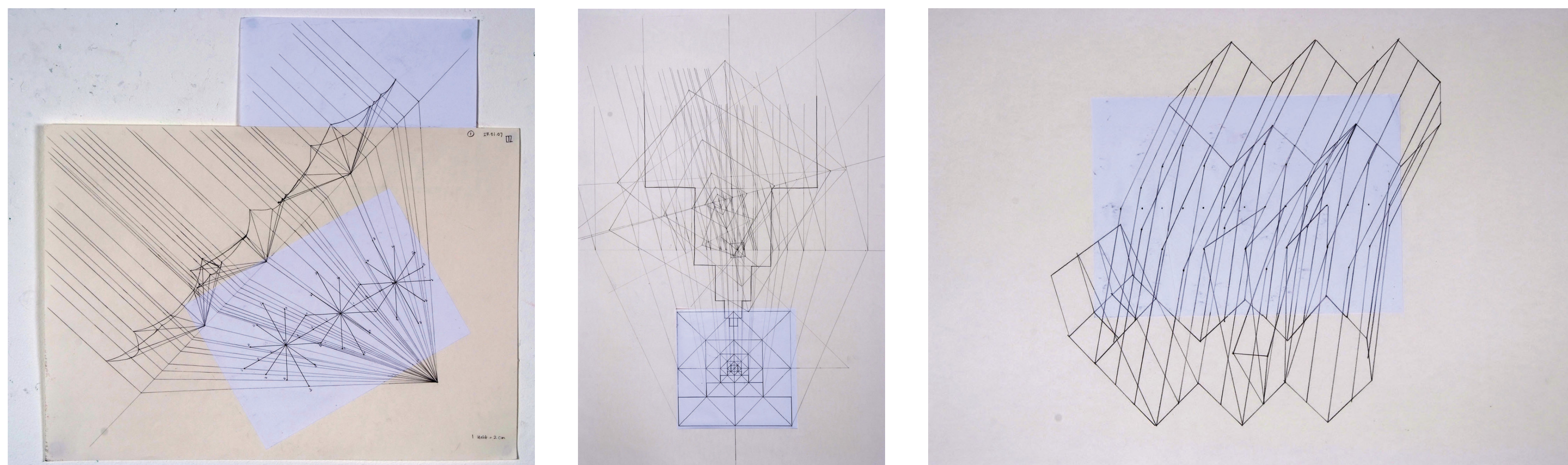


Figure 15:
Wall drawings. Photo: Patricia Cain,
2007.

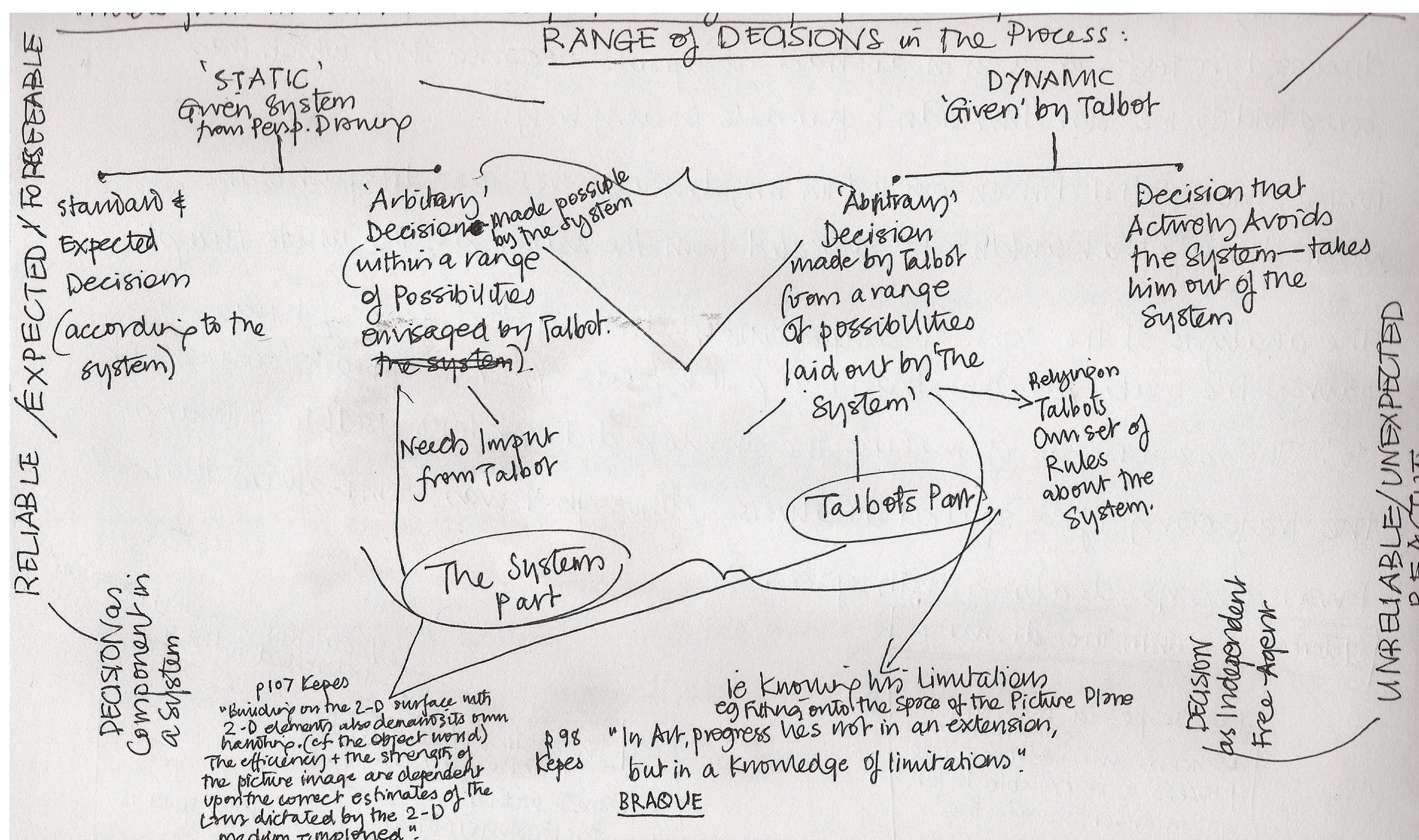


Figure 16:
Connecting Talbot's range of
decisions. Photo: Patricia Cain,
2007.

It feels like I've been going 'wrong' in these drawings. I've not got the same type of concentration Talbot uses: my mind is all over the place... I just keep going off on a different tangent. ... This has been the lowest point of the research for me... The things I am learning are more about my own capabilities than Talbot's principles... I have been trying to discover aspects about him but I'm actually showing things about myself through him. Is this the nature of embodied thinking?²⁹

By re-enacting Talbot's marks and pushing copying beyond simple replication, I came

to see *how* and *that* my own understandings were being created by my own part in the embodied research process. I started to understand how Talbot's thinking processes were expressed in the material way he engaged in the series of interactions between himself and what he creates. Like a chicken and egg situation, it is '...impossible to say "which started first", in the exchange of stimuli and responses.³⁰ Mapping this continuous forging of conditions (Figure 16) showed me that Talbot is not the author of his own process, but *part* of it.

These interactions enabled me to see his embodied process, kindling my own

metacognitive awareness, identifying and synthesising connections between the activity of drawing and Varela's notion of enactive cognition.³¹

I likened the artist to Varela's autonomous human system, which interacts in a dynamic relationship with the world about it. The artist's dynamic, recursive, circular system of feedback with what he makes became resonant of Varela's enactive description of 'an ongoing *bringing-forth*' of a world through the very process of living.³² Here, the evolution of one's understandings occurs through a self-generating/organising autopoietic system³³—through the production of an individual's own components and interactions with their environment—not as outside inputs into a system, but 'perturbations' imagined by me, as a bumping together. In this way, Varela understood that the role of the artist is to visibly bring forth their world in dialogue with world, including oneself as part of that:

That fundamental act of perception is precisely that drawing out, into the visible, something that wasn't there as visible previously. Thus, the great genius of being alive, of having a brain, is to actually bring forth that reality.³⁴

I suggest that autism, as a matter of human difference or variation,³⁵ disappears when we think of human beings as individuals whose development depends on their own unique, recursive, self-generating processes. If indeed, we all have this capacity and work in this unique self-generating way (albeit often invisibly through unawareness), then

two crucial questions arise. First, how can we, as a society of unique individuals, through our organisation and systems, enable and promote best growth for us all? Second, how might our research culture address and support the growth of individual thinkers through its values and methodologies?

Making Autistic Thinking Visible draws together the need for enactive practice as a matter of personal growth, and a bigger picture of how neurodiversity for all can lead in making our culture more meaningful. As identified in science³⁶ and autism studies,³⁷ there is a need to develop methodologies that are able to effectively access lived experience and address the 'hard problem' of explaining its subjective nature.³⁸ The scientific third-person methodological approach involves observing inner experiences from the outside: 'investigating our own cognition by ourselves in the "first-person" is valuable because our direct knowledge of subjective experiences stems from our first-person access to them.'³⁹

I believe that 'different' cognitive processing can evolve 'different' methodologies, accessing 'different' values/outcomes. The following qualities of the enactive model are directly relevant:

A first-person approach: "... the lived experience associated with cognitive and mental events."⁴⁰

Theorising that is 'ground up' rather than 'top-down': leading from physical activity to inhabit the methodologies.

Activity leads formation of knowledge, as *informare* is created from within activity, in comparison to the conceptual approach.

Enactive emergence comes from the central role given to the lived body: lived experience is not an outside process but a means of understanding mental states.

As a result, "the meaning of the world is not pre-given but a consequence of the person/environment system that co-constitutes."⁴¹

My particular associative thinking style allowed me to grasp two levels of unfolding research in my PhD: firstly, the experience of drawing, i.e. How do I think when I draw? What is it like to draw? Secondly, the experience of becoming aware and describing one's experience, i.e. How can I describe how I draw? How do I become aware of what I do when drawing?⁴² Rigorous observation of the experience of drawing provides time and space to give insight into the experience of becoming. This second level of experience, which is both internal and external, has subsequently become the focus for my post-doctoral practice. The projects described on Walls 2 and 3 of the installation address this aspect.

wall 2: seeing beyond the immediate: where is this 'different' self?

Life is often experienced as an ongoing static presence that changes in relation to our surroundings, but it is hard to pin down

a deeper sense of where our 'self' is. David Hume, philosopher, captures this dilemma:

For my part, when I enter most intimately into what I call myself, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure, I can never catch myself at any time without a perception and never can observe anything but the perception.⁴³

In terms of enactive cognition, the idea of 'I' is formed within the emergent recursive dynamical relations outlined above, which makes the real 'I' a groundless and unfixed entity,⁴⁴ which is something that is also recognised in Buddhism. Differentiating ourselves from others (alterity) and viewing ourselves as 'different' gives us a sense of self-identity, but how we can really 'know' this difference other than as a perception?

For me, making artwork is a complete and practical means to locate this groundless sense of self through process. My practitioner's role as observer is to engage. What is required of me is a willingness to partake in this process in a state of 'not knowing' rather than 'knowing,' with an open attitude resonant of *Shoshin* or the 'beginners mind.' The goal of practice is always to keep our beginner's mind... 'In the beginner's mind there are many possibilities; in the expert's mind there are few.'⁴⁵ Rather than trying to observe myself as a consciously identifiable entity, curation and narrative are my means of making myself visible within the work. As

Emeritus Professor of English Paul John Eakin observes, 'Narrative is not merely about self but is in some profound way a constituent part of self.'⁴⁶ In this sense, autobiography is always an act of self-determination. Narrative and self-curation operate as a form of visible self-contextualisation which doesn't rely on another's interpretation: in a sense, what I'm doing speaks for itself. Just as, for the beginner's mind, there is a need to steer clear of the path of intellectualism.

Wall 2 (Figure 17) was an edited version of my 2017/2018 touring exhibition, *Seeing Beyond the Immediate*, an experiential installation. Its form and structure was created by narrative and self-curation, to provide insight into my mindset as I moved between creating representational and abstract works. During a three-month residency at the Scottish home of abstract artist, Wilhelmina Barns-Graham, I asked: 'Can I make the artist's cognitive signature visible?'

Wall 2 mapped out the exhibition's themes, enabling viewers to experience evolving artistic processes for themselves. These themes (outlined below in words and images in Figures 18-23) enabled others to navigate the processes underwritten in the work that would otherwise not have been immediately visible. These themes were:

Connection through observation: 'That movement of looking is now held in a material': the experience of turning the gaze inward through observation materialised in a room of powerful floor-to-ceiling observed drawings. The act of drawing creates an



Figure 17:
Wall 2 of *Thinking Room* installation,
2019. Photo: Patricia Cain, 2019.



Figure 18:
Georges Walk 420 x 170cm Pastel
2017, Gracefield Arts Centre. Photo:
Patricia Cain, 2019.

indelible connection with what is observed. The artist is reminded of their part in the natural system—not independent of the world they observe (Figure 18).

Absence: 'The dominant energy in the universe resides in empty space': absence as a dynamic. The deliberate omission of an element/s in paintings and drawings create negative spaces, which can form an active part of or add a different dimension to the work (Figure 19).



Figure 19:
Treeline 170 x 120cm Pastel 2016,
and Milton Diptych 170 x 170cm
Pastel 2017. Photos by Euan
Adamson

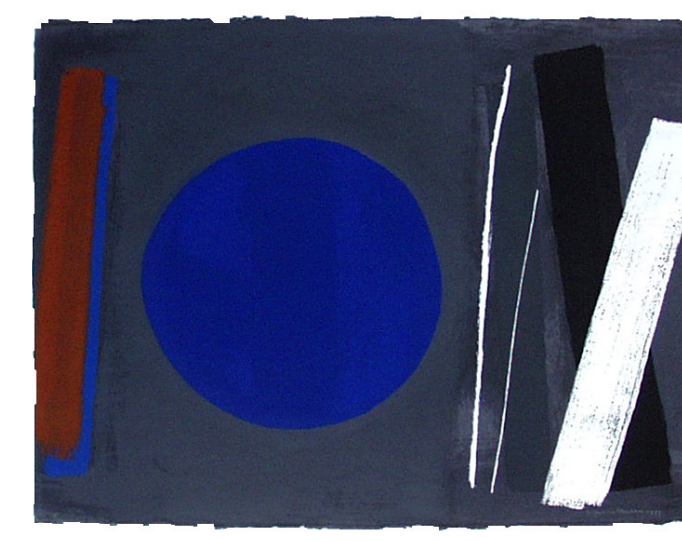


Figure 21:
Comparison of decision-making
made evident through layers
in screen-prints/collages in
juxtaposed work by Wilhelmina
Barns-Graham (Images 1-3) and
myself (Images 4-6). Photos: The
Barns-Graham Trust and Patricia
Cain, 2019.

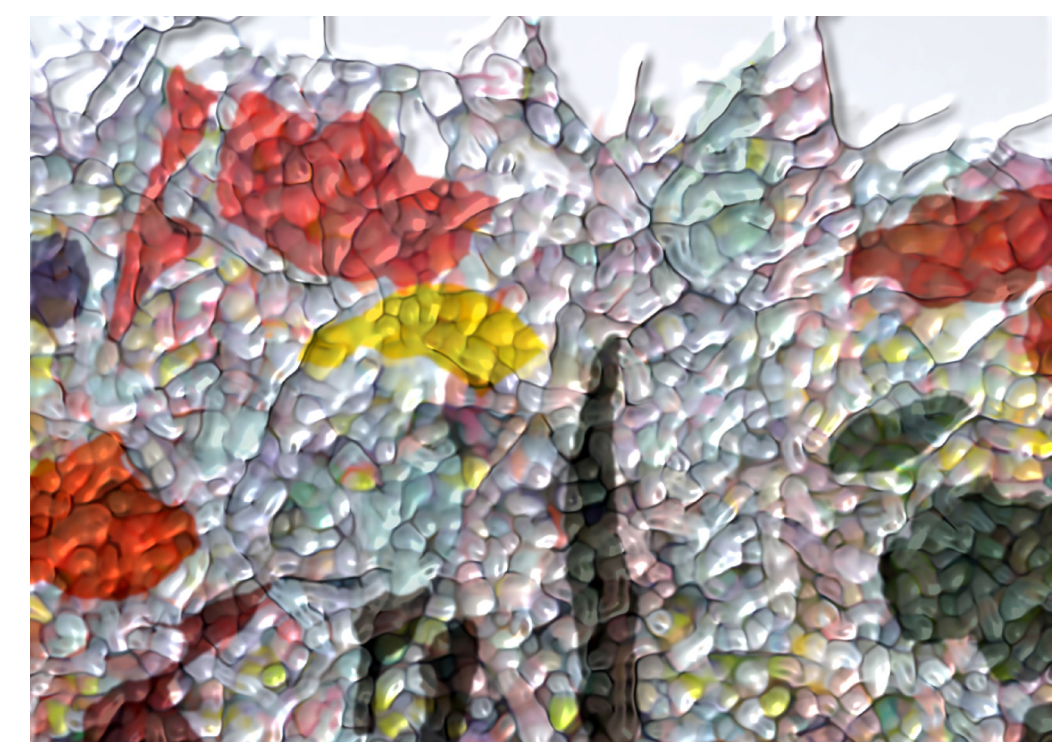


Figure 20:
Stills from Something to nothing,
a digital animation of the life cycle
of energy between two related
paintings. Photo: Patricia Cain, 2019.

Reduction: 'From complexity to nothingness': the process of reducing elements as a material way of reaching the essence of subject matter (Figure 20).

Tension: '... the way one shape in an image impinged on all the others creating tension between elements or upsetting the balance.'⁴⁷ Are the acts of 'balancing up' an artwork tantamount to a cognitive signature? (Figure 21).

Reflection: 'I am what I understand of myself' A reflective 'studio' space showing incidences of self-awareness in reflective art practice in preparatory works by Barns-Graham and myself, referenced in a timeline (Figure 22).

Culmination: '...different elements (of self) as one,' a final space allowing the viewer to better understand artistic work as a culmination of processes and product of the artist's development rather than as isolated artefacts (Figure 23).



Figure 22:
Reflective Studio Space at
Gracefield Arts Centre. Patricia
Cain, 2017.

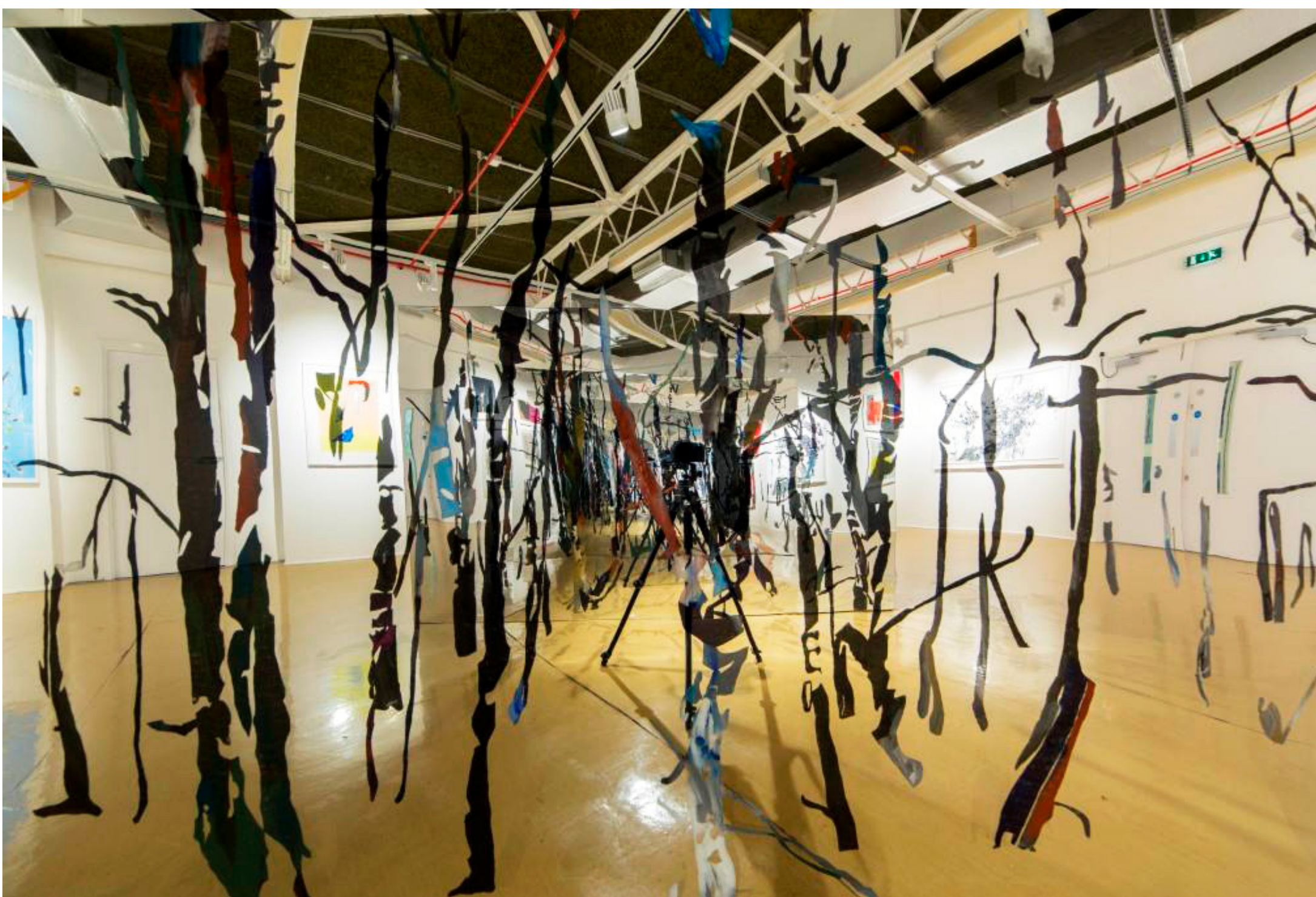


Figure 23:
The sculpture *Field of Trees* allows
viewers to walk between opposing
3m x 2m mirrors to create a 'virtual
wood' in which they become part
of what they see. Photo by Mike
Bolam, 2017.

Two 'internal' aspects from the work in this exhibition in particular can inform the Autism project: the development of self-awareness and the notion that knowledge is situated in the context within which it's made and relative to the maker.

Wall 2 was about capturing my developing self-awareness as part of my artistic process, by making visible the inter-relations between my artistic activity and my understandings of this. Making my experiences (of creating work for this exhibition) visible, to share with others, demonstrated how my understandings were relative to myself; i.e. my knowledge

was subjective and situated. Working like this has enabled me to contextualise myself (as an artist), my identity and my purpose—two aspects created through self-awareness, which I see as being useful in enabling others to understand their authentic cognitive selves to share with others.

In relation to autism, the notion of *self*, however, is viewed as problematic. The term autism comes from the Greek *autos*, meaning self. Original cases of ASD noted by psychiatrist and physician Kanner and Austrian paediatrician Asperger '... addressed variances in understanding the self.'⁴⁸

Since then, one line of research into autistic self-identity has suggested that ASD individuals have limited awareness in the self and others, due to social and communicative impairments as well as theory of mind deficits; i.e. if you can't understand the minds of others, you can't understand yourself.⁴⁹ Danish Philosopher Dan Zahvi suggests that autistic individuals have selective rather than global impairments in the self and that engagement with others and the environment also affects an individual's development of self.⁵⁰

These lines of study in psychology/ cognitive science are, however, based on a 'consensus among researchers that there are impairments in the psychological self in individuals with ASD.'⁵¹ Again, this makes implicit reference to a 'norm' against which difference can be measured. Research outcomes in autism research are frequently constructed by external methodologies unresponsive to the uniquely differentiated self. Existing methodological approaches use narratives from others as data, which the researcher then sieves for semantic relationships, balancing outcomes 'with the perceptions of others, as well as different social and psychological contexts from which others' perceptions are coming.'⁵² It has been difficult to locate any stand-alone autistic-led first-person research methodologies that speak for themselves.

I suggest that methodologies that move away from deficit and are based on self-awareness as a unique experience for each person⁵³ (whether on the spectrum or not) have a valuable place in research culture.

This is the basis for asking: How do I create a methodology that fuses a social model of disability (difference, not disability), autistic cognition (a differently constructed processing system), enactive thinking (what you do is how you think), and participatory art (artist's placement in the larger world)?

self-awareness as a self-developing methodology – a discussion

Development of awareness in the context of my body of work has shown itself to be fundamental to my neurodiversity. It leads me to believe that to cultivate self-awareness, we can participate in how we think by learning how to participate in the doing that is our thinking.⁵⁴

James Elkins asks, however, what kinds of art have been best served by self-awareness, 'given that self-reflexivity might be considered inimical or hostile to practice?' Fusing self-reflexivity and self-awareness, he asks: what is the place of self-reflexivity in research? Where can it go? What is its value?⁵⁵

Self-reflexiveness involves the critical process of questioning one's own assumption, presuppositions, and perspectives,⁵⁶ which may include an element of self-awareness. In neurocognitive terms, self-awareness has been used to mean focussing inward toward the self —being aware of self as 'the object of one's own attention,'⁵⁷ as opposed to focusing attention on one's outside environment (consciousness). Being self-aware is said to involve both perception of self and self-representation—a meta awareness, that involves 'monitoring processes (the ability

to accurately represent one's own mental states) and controlling processes (the ability to control one's cognitive processes effectively).⁵⁸

Elkins questions the relevance of so much self-reflexivity (in art education in particular), noting that 'entire movements and centuries of art have flourished without the kind of self-reflection we now value.'⁵⁹ He writes:

Cezanne's letters are full of wonderful observations about nature and reality, but he has nothing to say about the inch by inch construction of his canvasses... Cezanne needed to be unreflective about the details of what he did, and a PhD programme would have disrupted his practice severely and perhaps irreparably, in the name of articulateness and reflexivity.⁶⁰

I suggest that the practice of becoming aware is something more than gaining the skill of critical 'self-reflexivity': it asks for something transformative in order to accept the challenge of the groundless nature of knowledge that, paradoxically, doesn't need to be critical. This may be the difference between self-reflection and the self-reflective act. My experiential understanding of awareness from making work is that there is a reductive quality that evolves from activity, a disarming of complexity as a result—something like moving into a different space because of its activation. My involvement activates a different space beyond the grounded elements of its physical activity. So, what allowed Cezanne to grow through making his work could have been

found in this reductive space that created opportunity and opening. Rather than needing to be unreflective, he needed the internal space to partake in his own 'becoming.' His need for an enactive practice was to make visible what was previously invisible. In my experience, I locate myself in a space of reduced engagement in which there is less need to speak about the activity whilst engaging, or to engage with others, or to be involved with structures that support more limited ways of thinking.

The idea of self-awareness as a self-developing methodology is not novel: Dan Zahavi's position is that phenomenology can contribute something decisive to the analysis of self-awareness⁶¹ and Francesco Varela's position is that self/meaning is to be found in the interrelations between what one does and one's understanding of this.⁶² What is novel is how creative research practises that concept.

As a biologist, Varela developed to a point where he and his collaborators investigated the structure of 'becoming aware.' He describes a metacognitive act that suspends belief through co-ordination of body and mind; becoming aware involves inhibiting outer actions to turn inward, allowing for a contemplative movement of self-induced suspension—a break with one's 'natural attitude,' where simultaneously, attention can be redirected, yet 'let go.'⁶³

For me, 'becoming aware' involves immersion in a flow of activity,⁶⁴ including fastidiously recording the interests I move through with an intense focus. This is not so much about recording, but a 'working through'—a ritual, akin to philosopher and cultural critic Walter Benjamin's description of art being used historically as ritual.⁶⁵ Original artworks are born of rituals, giving them a uniqueness that is not replicable/reducible. Benjamin notes 'the choice to value empirical consciousness at the expense of such "marginal" forms of consciousness has resulted in a decay of experience.'⁶⁶ In relation to autistic flow, cognitive uniqueness (made visible through the flow of ritual) is not replicable: every autistic person is not an example of a group: autistic rituals embedded in their contexts cannot be appropriated by others. This is why first person-led 'differently processed' research (not just data) is so relevant.

I have come to see the relevance of becoming aware through activity. The 'apparently limited' recursive, circular, and subjective quality of activity-induced-awareness can bind the false sense of self one perceives with an 'other' invisible way of being. Philosopher John Searle reminds us,

the ontology of the mental is an irreducibly first-person ontology—... consciousness has a first person ontology; ... it only exists as experienced by some human or animal, and therefore, it cannot be reduced to something that has a third person ontology, ... exist[ing] independently of experiences.⁶⁷

We can only know for ourselves what we are capable of knowing in that moment. Direct engagement is necessary because:

... you can only be sure you've described the act you say you have, rather than something else, if you've already defined it. But the only way to check your definition is to experience an act, and that's something no definition can ever do for you: you have to jump in there and experience it for yourself!⁶⁸

This irreducible methodological foundation of *active* self-observation is relevant for gaining insights into and enabling neurodiversity, because its authentic circular nature overrides the dual autistic identity. British writer and poet Joanne Limburg's account⁶⁹ of her two 'selves'—'*self a*' that was authentic yet hidden, and '*self b*,' who policed '*self a*,' masking, compensating, to fit in, is an example of the alternative compensatory mechanisms⁷⁰ that ASD individuals apply to understand mental states of their own or others. Understanding instead who we are from what we do can address the:

... deep tension between the way I become conscious of myself as subject through pure apperception and the way I am given to myself as an object of inner sense. This tension remains problematic in the realm of theoretical cognition, but can be put to work and made productive in terms of practical self-knowledge.⁷¹

Self-observation within activity locates our authentic neuro-diverse 'selves' because each must follow their uniqueness in so doing. Given that we are all 'third person' to all other individuals, our research methods should not only 'follow the person'⁷² but let them lead, benefitting from 'difference,' unlike third person methods. Observing ourselves requires us to pay attention to the active languages that we and others use.

When James Elkins and Clare Petitmengin (Varela's former doctoral student) conversed about my book about *Drawing* for use as a preface, both had something to say about the processes and methodology not following lines of sight in research:

Cain's work is somewhat sealed away from contemporary discussions of the process of drawing, and in terms of research that is a weakness. But in terms of independence and insight, it can easily be a strength. (Elkins)⁷³

...Patricia didn't give herself all the methodological means... that would have allowed her... to highlight possible regularities, that is a possible structure of the experience of drawing, and to make this whole process reproducible—a necessary condition for any scientific understanding...⁷⁴

They were not tuned into my language but to that of scientific method. Both assumed I wasn't properly aware of the communal area of my project. My position is that my methodology is context-specific. Scientific

method is context-independent by attempting to remove context as much as possible through 'objectivity' (impossible in reality).⁷⁵ Removal of context in itself, however, is a creation of context.⁷⁶ The neurodiverse artist/scholar can enter this discourse and their 'differently contextualised' knowledge can challenge, not follow, norms. The challenge for autism is that there is atypical recourse to context, i.e. different sensitivities to contextual information. The strength of this is that it can also pave the way to establishing methodologies where difference is the norm.

what might a self-referential neurodiverse-led methodology look like?

Shape of methodology

Enactive practice in research culture can create methodologies that 'follow the person' and allow individuals to turn inwards. This means realigning methodology to an 'internal participatory model,' the fundamental circularity of which demonstrates that inside/outside is a misleading divide (Figure 24).

Realigning the shape of methodology acknowledges that engagement is central to relational knowledge that is embedded in its context. There's a role for methodologies that place importance on letting the individual speak from experience and create *self-wisdom*—wisdom which can't be measured or evaluated in a standardised way,⁷⁷ but for which 'openness to experience is the most frequent predictor.'⁷⁸ This enablement signifies the true growth of intelligences rather than restriction due to methodological parameters. The artist as cultural agent, relatively free of

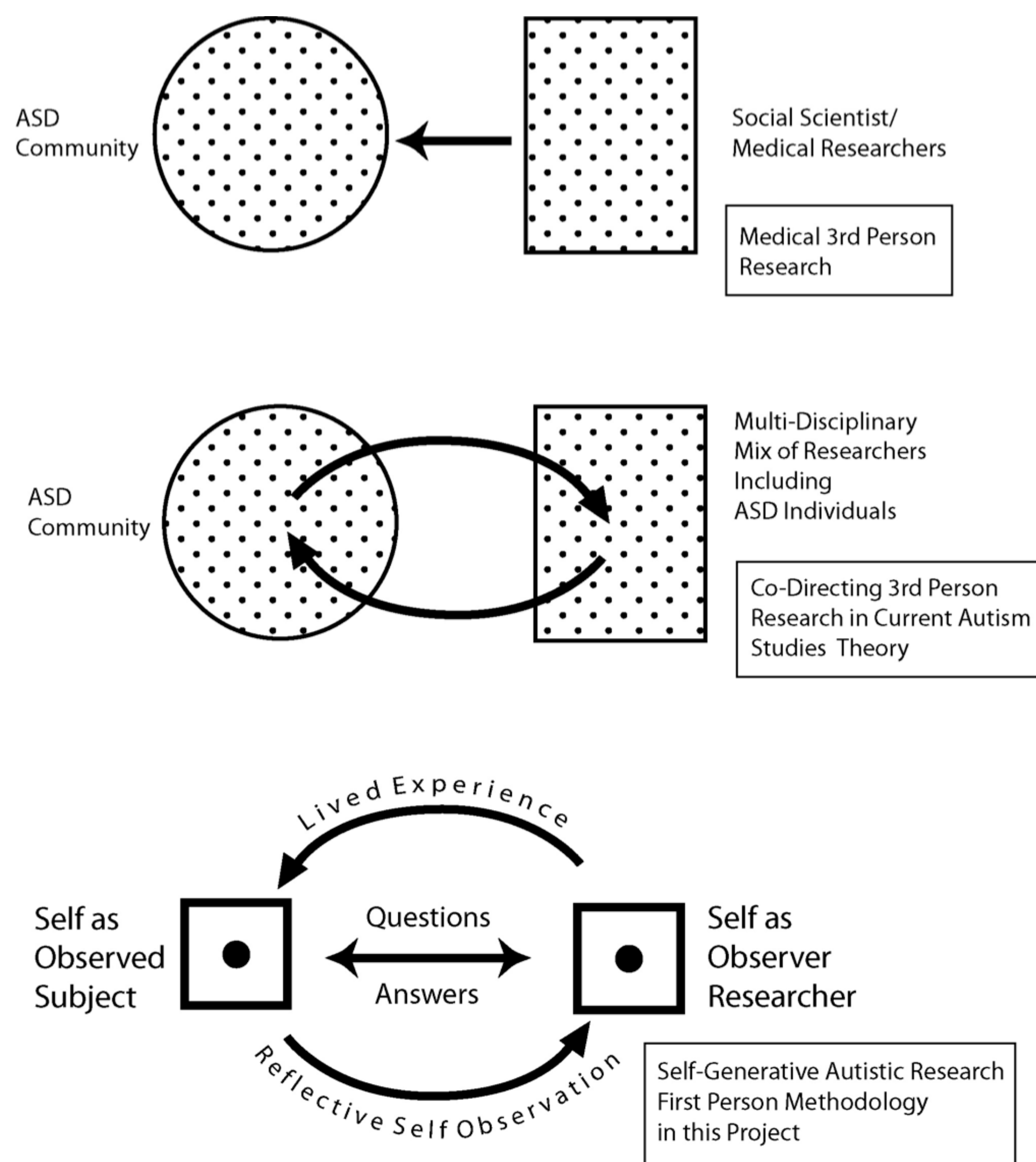


Figure 24:
The changing shape of
methodology. Patricia Cain, 2018.

societal structures and organisations, can challenge these systems to realign to ideology of the individual, because so many voices are currently not heard. Our non-linear but complex practices are, in themselves, acts of challenge, because they involve 'Letting go of fixed forms of knowledge.'⁷⁹

The relation of *self* and others— Coproduct as cultural practice

As a practitioner bringing forth my world, I contextualise myself accordingly and in flux. Self-contextualisation creates our identities—being able to place oneself in external contexts with others, identifying commonalities and differences, associations,

connection and empathy. Evolving my own growth can enable others to see things in new/different ways: through tools and processes I can extract which others can use; sharing with others the co-construction of experience, relying on the commonality of experience; and finding unspoken ways to co-produce experience when connecting with others who think differently. I can see that communal self-generation lies within the narrative of co-production with others.

Research culture operates to make researchers unattuned to different forms of knowledge. In scholarly art, one has always, at some point, to rationalise what one does, to give permission to oneself (and others) for activity to be sufficient in itself. When research culture doesn't incorporate our uniqueness as a norm, we can only rely on others who think similarly to ourselves. Traditional research involves '... a subjective-social dimension, but this dimension is hidden within the social practices of science.'⁸⁰ Cognitive variation excludes us from participating in these research practices, inhibiting new values and outcomes to be found in neurodiversity.⁸¹

'In a medical context, individuals may share a condition but not its interpretation...'⁸² Let's include future intelligences that are multiple⁸³ and hybrid in terms of the collective⁸⁴ in cognitive research. In place of homogenous methods of an official discourse, integrity and authenticity of enactive practices offer the basic elements of forensic investigation, as intended by the original Latin 'forensis'—collecting, preserving and analysing for discourse in open court/public.

Qualities of methodology

Enactive methodology has the qualities of practice: attunement, attention, focus, openness, integrity, non-fixedness, and 'letting go.' Letting the work speak for itself, 'The real work is steady slow... permanent'⁸⁵ and ongoing. The methodological impact of these qualities is made visible in the layers of connections as experienced by Macintyre Latta in the exhibition *Drawing (on) Riverside* (Wall 3):

Constructed on-site, the experience of the exhibit is 'not a combination of mind and world, subject and object, method and subject matter, but is a single continuous interaction of a great diversity (literally countless in number) of energies' (Dewey, 1916:167). It is the deliberative engagement with these relationships that is the indispensable condition of thinking methodologically.⁸⁶

Creativity is a prerequisite for shaping the world we make for ourselves—it offers a resource to challenge the certainty of our hegemonies and/or our place within the world. Varela reminds us of the need for practice for growth:

Confronting the lack of foundation, makes it essential to and points to a need for a human practice, for a human learning into that. It is not enough to know it. It is not enough to understand it. It is not enough to have a scientific theory about it. You have to grow into it... so that spirituality... is growing into the need for that practice and actually carrying it out.⁸⁷

what is an embodied/enactive art practice?

Embodied (art) practice involves a long-term creative commitment to a process of learning that is realised 'as an integral part of character, conduct and consciousness.'⁸⁸

As I move through my new project, I expect my emphasis to change many times. Wall 4 of the installation is dynamic, but the other three walls are not static. Likening Wall 4 to the notional breaking of the 4th Wall in theatre convention by inviting my audience in, I can share the same space as them. Instead of telling people how they think, I can help people to become themselves—opening up to the possibility of difference.

Enactive practice is difference. A person who makes their thinking visible creates interconnections with the world—has agency. Their thinking made visible adds new philosophical positions, ideas, and questions into the world, enriching it. By working with others, '...perceiving there to be no place for them, they begin to make, to exist and exist in the mind of others.'⁸⁹ As a society, we're creating our own futures. Artists and researchers can create intellectual hospitality and be 'beginner's mind' role models towards creating this space. Autistic thinking is different like every other—we're all unique and autonomous. Methodologies need to reflect this complexity and uniqueness, as do the organisations of research culture.

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notes

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