

Drawing as coming to know

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This paper forms Part One of a two-part narrative, which relates an embodied account of 'coming to know' in the context of research and describes an exploration of ideas about the relationship between drawing and thinking.

The narrative is supplemented with quotes and drawings from main texts and the writer's journal.

The second paper deals with the experience of generating a methodology towards investigating the notion of embodied thinking as a method of knowledge constitution in the drawing process.

1. Starting off.

To begin with, my research aimed to investigate 'the role of drawing in the creative process and its relationship to thinking', and primarily arose as a result of how I work in my fine art practice and the constant impulse to try to understand what I'm doing as I make a drawing.

Further impetus came from my experience of art education during which I became used to being asked for verbal validation of my work. I came to appreciate how difficult this was; not because articulation eludes me generally, but because I was aware of how it was not always possible to say what one was doing, and that many reasons for decisions in the activity of drawing were not apparent to me.

In fact, if I had been pushed to describe my state of thinking or the conditions for the decisions made during making, I might have done no better than to describe a state of absentmindedness. Explication was more possible in hindsight but during the process was elusive or at best ambiguous.

This was compounded when my tutors "...very much question[ed] the role and validity of 'intuition' as a means of decision making and validating choice in art practice in the 21st Century. After Matisse, Matta and Pollock is it enough?"

This highlighted not just issues concerning the role of logic and intuition in creative process, but specifically how the accumulation of knowledge might be accounted for *by* artists and those involved in art and design. A certain devaluation was attached to anything that could not explicitly be accounted for.

I began to think that the real value in a drawing was an essence that was being lost at the expense of not being able to describe it, yet this aspect to drawings often meant most to me.

I had a vague notion that my investigation should include a definition of 'thinking' which should have a level of meaning attached to it rather than to merely describe a cognitive tool (Tversky 1999). Finding a "meaningful" answer was important because I was determined to make the research relevant to what happens in practice, rather than deal with abstract theory with counterfeit quality.

I could identify that knowledge which accumulated during the process of drawing occurred in a manner which led from 'not knowing' to 'coming to know', and was less to do with problem solving and more to do with problem finding.

I began to consider how this occurred by investigating thinking through the experience of drawing from the practitioners point of view. By evolving a methodology which firmly included the practice of drawing, it might be possible to discuss drawing as a form of embodied thinking in contrast to the dualist descriptions of thinking I had read about.

2. Getting into it. – Equating modes of thinking with the process of drawing

Drawing as a subject via which to discuss thinking, seemed particularly pertinent because of its immediate nature. I read not only that "Drawing turns the creative mind to expose its workings." (Hill, 1966:4), but also that its role towards the process of thinking may be a developmental one, where it becomes "...an *interplay between the functions of seeing and knowing*". (Rawson, 1979: 7)

Setting out to find out how drawing could be equated with modes of thinking, took me on a journey through a number of distinct phases in my efforts to satisfy how the relationship might meaningfully occur. The most practical role my practice offered initially, was to allow my experience of drawing to guide me on the relevance of the descriptions I read about.

2. 1. Style and thinking

My first description simply equated thinking type with drawing style. This suggested that more formal thought processes involving cognitive pre-saturated thinking out, could be aligned to cool (Rawson 1969) linear hard-edged instrumental marks, whereas exploratory modes of thinking which had no a-priori cognitive strategy (so that the aims are revealed at the end of the drawing), could be identified in gestural mark-making (Perry 1992).

I thought this explanation limited because it only served to indicate how drawing might be identified in relation to the context of its use (Robbins 1994), whereas a variety of artists and architects often used drawing styles out of context. (E.g. Paterson (Fig. 1a) uses architectural drawing techniques as an artist to make comments about post rationalisation of modernist structures,

whereas Keisler's gestural mark-making (Fig. 1b), make poetic reference to his architectural projects).

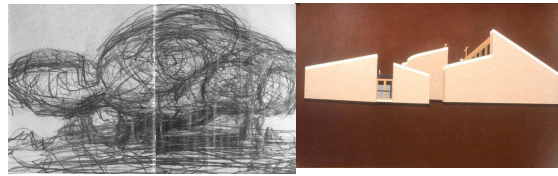


Fig 1. A comparison of drawing styles in Art and Architecture reveal how styles are not fixed to the context within which they are often used.

- a. Toby Paterson ; *Suburban Church*; 2003 ; Installation view from New Facade Exhibition, CCA, Glasgow ;
- b. Frederick Keisler- Endless House Sketch 1958 Pencil on Paper

If a certain drawing style was equated with a certain type of thinking, it could be implied that the drawer would know in advance what he/she was doing and act accordingly. This did not seem to mirror the complexities or messiness in practice, where things are seldom black and white.

Whilst modes of thinking would often be described in a dualistic way (e.g. logic and intuition were often set in opposition), I was also aware ¹, that “...*what impresses us about such thinking may have more to do with its simplicity and symmetry than its ability to interpret the world.*” (Sayer, 1991:284)

2.2. Problem Solving

Many accounts about how creative thinking occurred appeared too defined and structured to be wholly relevant to the experience of practices. Problem-solving models (Treffinger and Issakson 1995 ; Hiller and Musgrove 1972) delivered orderly and deterministic labels to a process of creation, which evaded the confused non- linear aspects experienced by practitioners (Gray and Malins 2004).

The problem-solving model suggests a problem could be defined at the outset, and the process thereafter comprised of co-dependant fixed stages, the outcome being the solution.

I doubted descriptions as clean cut as this occurred in reality. I wasn't sure my motivation was to solve anything as such, although I was interested in 'making sense of'. Was this just an ill-defined problem?

My own experience of ambiguity prompted me toward models which were more concerned with problem-finding (Garner 1992, and Getzels and Csikszentmihalyi 1975) than problem-solving. I also began to understand thinking as a *process* in learning, (Habermas 1971), and found relevance to the notion that knowledge could be accumulated through the experience of doing (Kolb 1984) and that learning could involving “soft” aspects likely to slip

from the grip of analysis, such as emotion (Boud, Keogh and Walker 1985), or tacit knowledge (Polyani 1966 and Cornock 1986).

My drawings during this period spent in the library attempted to curb the parameters of an increasingly large investigation (Fig. 2).

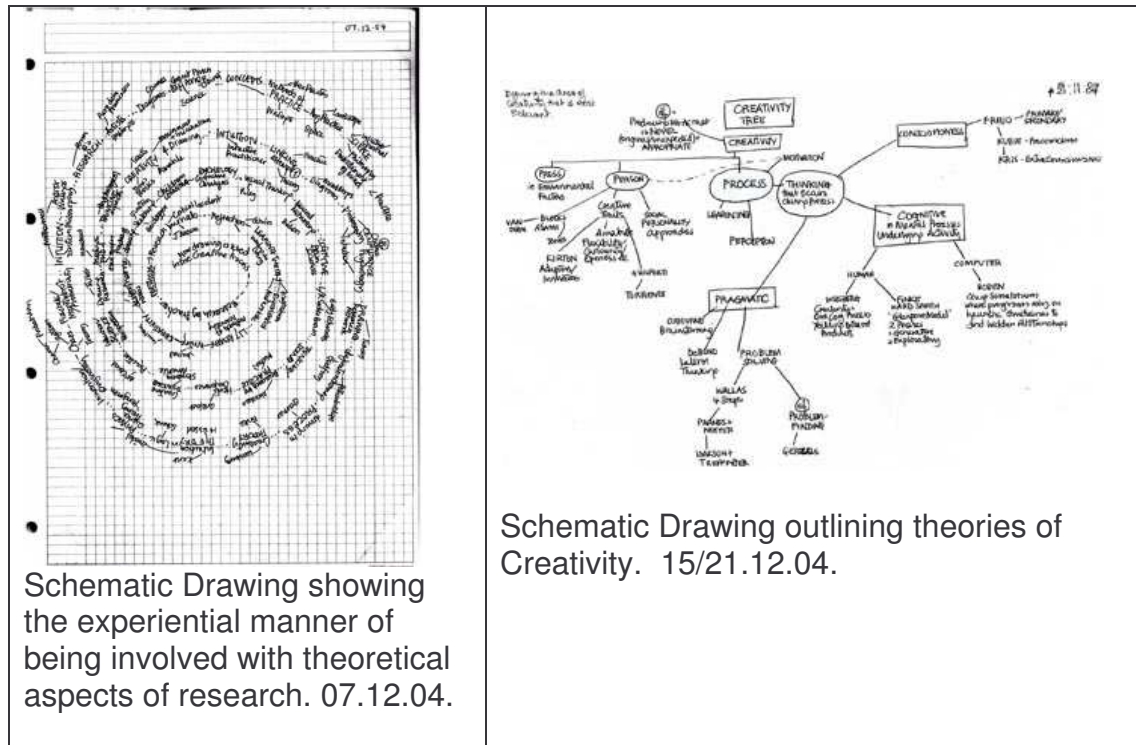


Fig 2. Schematic Drawings 15/21.12.04 and 07.12.04

2.3. Active (yet) Rhetorical Problem Finding;

Newman's summary of drawing as *"the materialisation of an act of consciousness- where gestural act embodies an act of thought"*, (De Zeghler, 2003:72), suggested the *form* of a drawing to be the product of a dialectic process involving a state of consciousness, as opposed to being merely an object whose purpose was the translation or illustration of something already known. (This raised issues about the relationship between drawing, thinking and representation, although I did not immediately understand this).

I had a hunch that 'not knowing what I was doing' during the process of making a drawing was as productive and formative in terms of thinking as any explicit account could be. It seemed that I 'knew' what I was doing just by doing it, even if I couldn't recognise what it was to begin with².

I thought that my 'not knowing' might actually be a relatively accurate method. I read that whilst *"explicit comprehension can retard the development of expertise"* (Claxton 2003), implicit learning could pick out patterns in a complex situation which are too subtle to be taken account of in a cognitive way. (Lewicki et al.,1992).

I began to consider that drawing was perhaps a knowledge-constituting *process* involving a dialectic between 'knowing' and 'not-knowing'.

Galbraith suggested a similar dialectic was bound up in the medium of writing (Galbraith 1999). I could equate making a drawing to the production of text, and shared Galbraith's need to account for creative discovery via something other than rhetorical problem solving models, which merely involve re-organisation of existing ideas³ rather than advancing a maker's personal understanding of the topic.

Galbraith's 'knowledge constituting' or 'dual-process model' accounted for the "...*hidden decision-making lying behind what seems like a spontaneous process*" (Galbraith, 1999:139).

His ideas assume that knowledge is not stored in a uniform way which problem-solving processes can locate, but relies on a 'dispositional dialectic' "...*in which content is produced as a consequence of a dialectic between the writer's implicit disposition and the emerging text*". (Galbraith, 1999:146). This affirms the maker's role in the production of knowledge, "...*which is in some vague sense 'controlled from within' and involves 'following where language leads'*", (Galbraith, 1999:141).

Journal Entry on 15.10.05

Fitting the methodology is the struggle then, within the research; and the annoying aspect is, (particularly at the outset, before the research can be undertaken), to explicitly outline, perhaps by hypothesis, the outcome to the quest to find a methodology.

This is a perplexing issue for the researcher, where the answer to the question is bluntly, "I don't know until I've done it".

Problem-finding at it's finest; generative methodology calls for the researcher to re-arrange her tools and expectations into a context where acceptance is paramount....A bit hard for deadlines, where time and tide wait for no man.....

"How do I know what I think until I see what I say?"⁴ was echoed by artist Richard Talbot who told me "... *the image that finally arrives on the paper, comes about through me making decisions in the paper.*" (Talbot interview 1995).

A dialectic in the process of drawing might involve ambiguity in the initial tacit act of externalising a drawing, whilst a second more explicit process, could resolve ambiguity. (Galbraith 2006). Maintaining ambiguity throughout the process by sustaining the dialectic between not knowing and knowing seemed important to keep a drawing 'alive'.

"Once the pen hits the paper that mark will be there, and there is something challenging about having to be so specific, and trying not to be too specific, because if you are too specific it is not interesting. I don't want to make

something that I know I'm making, I want to make something that I don't know that I'm making." (Ansuja Bloms, speaking in Hunt, 2001:79).

This suggested that knowledge might be formed on a rolling basis through a state of buoyant enquiry where the dialectic was keeping it alive so to speak.

Journal Entry 20.10.05

As I apply colour, I reference the work as a whole and the effect of that one piece, upon all the others, whilst simultaneously, 'receiving messages' about what colour next goes where and ascertaining the likely effect on previous and proposed subsequent pieces...

Knowing what's 'right' is perhaps harder to define. For both colours and shapes, I'm looking to use the pieces in a way that goes against the grain, so that the placing of the colour/shape, is not that which would necessarily be anticipated or easy, but might constitute a fresh combination- an unexpected combination to my eyes.

There is a fine line between what is unexpected and what doesn't work, and sometimes I have to haul back if something isn't working to bring it back into the fold, and to find an answer that is more easily 'read' or acceptable.

And why do I do this?

It's not a deliberate plan.... it's just that this way is the nearest thing to what appears right; is of most interest; captures something I can't grab hold of. So I just construct it 'as-near-to' as possible. And in doing so, the making of it gets right in there, to mirror how I operate generally. In freeing myself to make the drawing... I can literally apply unadorned a basic mechanism.



2.4 My own problem finding;

I needed to develop an understanding of how it was possible to investigate a way of thinking which moved from 'not knowing' to 'coming to know' by engaging with drawing in the studio.

Although I couldn't initially identify it, my ideas had assumed from the outset that thinking had an embodied aspect, where body and mind were both part of the thinking 'system', (c.f. the Cartesian idea that mental phenomena are in some respects non-physical).

'Embodied thinking' is considered by a number of disciplines⁵, but Varela's theory of "Enactivism" (Varela et al., 1991) was particularly interesting as an interrelated theory of embodied emergence because it appeared meaningful and less theoretically isolated than others.

It pragmatically suggested that everyday experiences could construct meaning because experience of the world occurred within the interaction itself and could be investigated as such. This had the potential to account for the operational and practical aspects of the association between thinking and drawing. It also gave an idea as to how such phenomena might be investigated.

Enactivism encompasses a number of associated ideas, including the following three propositions (Thompson 2005);

1. Living beings are autonomous agents which actively bring forth their own cognitive domains.
2. Cognition is a form of embodied action whereby cognitive structures and processes emerge from recurrent patterns of perception and action.
3. A cognitive being's world is not a pre-specified external realm represented internally by its brain, but a relational domain brought forth by that being's autonomous agency and coupling with the environment. i.e. a being's world forms an inter-subjective relationship between 'self' and 'other'⁶.

This accounted for how the human mind was embodied in our entire organism (self) and embedded in the world (other), so that "...our mental lives involve three modes of intertwined bodily activity; self-regulation; sensorimotor coupling⁷, and inter-subjectivity". (Thompson 2005)

Whilst these ideas might seem distant to events in the drawing studio, I connected the two as being "whole organism events" (Thompson 1999).

Enactivism was relevant to the nature of drawing because it could account for a way of thinking as not merely a matter of representation, but which was presentable through action (and I was concerned with a dialectic which was part of that action).

I recognised this from experiential descriptions I was accumulating from texts, initial interviews and my own practice journal, which suggested that elements of the drawer went into the drawing. The subject matter could not be divorced from what was given to it by the maker.

Journal Entry 06.11.05

Each part of the 'buildings' were constructed in a kind of free-thought way. What I mean by that is that they were being built as I drew them - they were constructed not to represent any particular building on the Clyde, but I allowed the making of the drawing to 'take over' the construction, and my involvement, was with the making rather than the intention of a pre-defined representation.

In allowing the construction to take place, I have to give up a defined intention, become aware and make the most of what happens. ...I am looking for and accept a mode where the thing can 'build itself' and I feel happy and engrossed to allow this to happen.



Clyde Redevelopment # 8

In an enactive account, the drawer could rely on him/herself as part of the process of developing knowledge, whereby 'getting to know' occurred through the dialectic of knowing (self), and not knowing (other). In this scenario, the form of a drawing was not so much a matter of representing what already existed, but was contributed to by self representation as part of the process that made it.

An autopoietic⁸ notion of a self-referencing independent system was to my mind, mirrored in descriptions about the process of art and the artist's part in the process, "*Every living process is subject to its own authority, that is, the authority evolved by, or involved in, the process itself*" (Follet, 1930 :206 referred to in Milner, 1957: 95)

Varela described this as an issue of representation when he urged me to ..."*Forget the idea of a black box with inputs and outputs. Think in terms of loops.*" (Brockman, 1993:3 of Chapter 12), because the loop could describe the self-referencing knowledge process in the activity of drawing.

The 'loop' idea was an alternative to the 'black box' or 'mind-as-container' metaphor (Fernyhough 2005) suggested by a Computational Theory of Mind (Fig. 3)., which proposes the brain to function in a similar way to a computer processor (Baum 2004, and Dennett 1991)⁹, because it takes into account the relevance of the self or 'first person'.

Translated into the activity of drawing, the Computational model describes how the brain might manipulate the body to re-present set features of the

world 'it sees' in a certain way, so that the 'mind-as-container' remains fixed. Here representation is defined in relation to the static boundary between internal and external worlds i.e. the sense of self is very much a fixed organism. It would always then be a matter of the practitioner knowing what would be re-presented in advance and manipulate the body in a pre-determined way.

This seemed unreal in comparison to what I knew from my experience of practice, and left the process of making to account for very little.

Varela presented a wider notion of self which was non-representationalist and wasn't sealed off in this way; *"My sense of self exists because it gives me an interface with the world. I'm "me" for interactions, but my "I" doesn't substantially exist, in the sense that it can't be localized anywhere"* (Varela in Brockman 1995;5 of Chapter 12).¹⁰

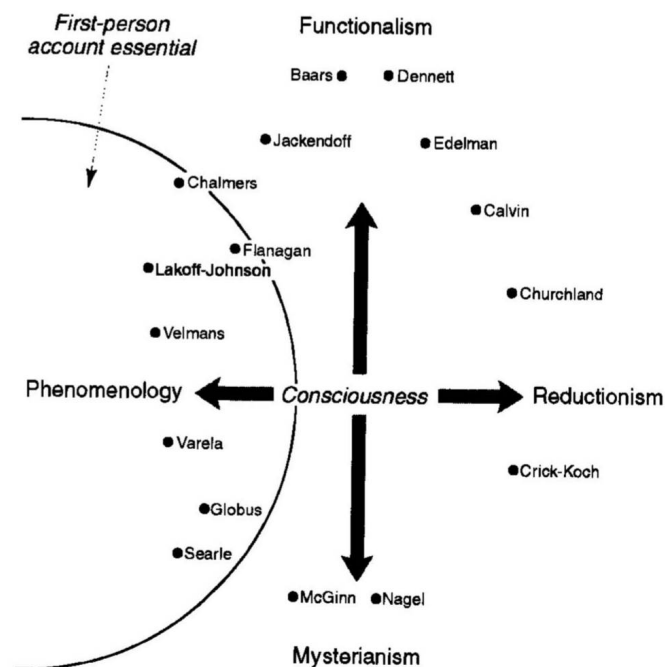


Fig. 3 "Varela's Four-Axes Diagram" which denotes through the axes, four theoretical orientations and the relative positions of some of the major philosophers and scientists (including Varela) involved in consciousness studies. (Varela et al., 1993).

So I began to see how describing the experience of drawing might account for ways of thinking which included in the equation, the notion of self. The loop was a matter of the indivisibility of the relationship between internal and external, and what I understood this to mean, was that human experience was part of the 'whole', rather than being closed off.

It occurred to me that the experience of drawing might also have something to do with mending the division of the fragmented self, because of the way in which knowledge was accrued through the push and pull between 'self' or inner, and 'other' or outer.

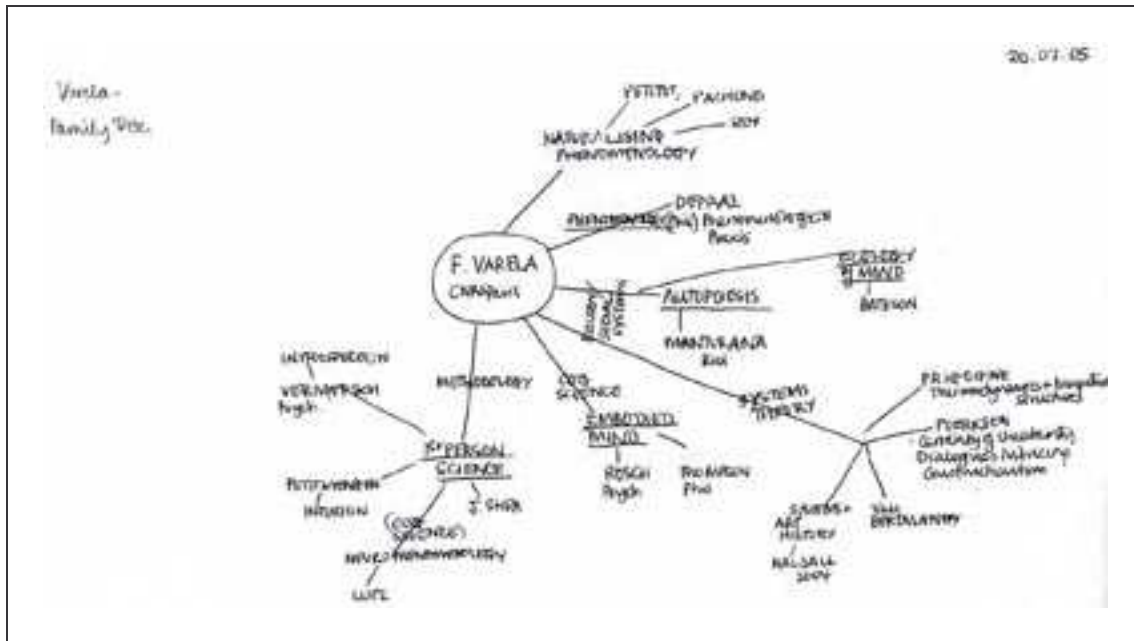


Fig. 4. Varela Family Tree 20.07.05

Varela assisted further in suggesting that the transformation inherent in accounts of lived human experience was central to an investigation of embodied thinking (Depraz, Varela et al. 2003).

The possibility of obtaining experiential data was a huge relief; I could at last touch base with the reality of the activity of drawing. I could sympathise with Herival when she commented that “*Most of what I had read about the creative process in the thought patterns of artists was through speculation by others*” (Hervial, 1997: 64), as most accounts of creativity I had read about, either evaded descriptions of process by artists¹¹, or were produced through the interpretive lens of psychology.¹² I had now fallen upon the chance of using the experience of making art count¹³.

Whilst I discuss more fully in my second paper aspects concerning ‘first person’ methodology, I mention here that central to Varela’s propositions is a belief that lived experience is irreducible i.e. that data concerned with ‘what it’s like to be’ (Nagel 1974) can only come from ‘first person’ experiential accounts¹⁴.

Varela uses Experience in a wide sense to describe “...*the lived first-hand acquaintance with, and account of, the entire span of our minds and actions, with the emphasis, not on the content of the action but on the immediate and embodied, and thus inextricably personal, nature of the content of the action.*” (Depraz, 2003:2)

Experiential data is criticised as being unreliable on the basis that it is impossible to properly explore the subject without disembodiment and therefore contaminating it¹⁵; because of the inaccuracy of converting non-linguistic sensory experience into linguistic accounts; and because it may not be

possible to be describe or be consciously aware of phenomena under investigation.

But Varela argues that no methodological approach to experience is neutral but always interpretive. Whilst experience is not a 'fixed' subject, access to it does not have to be free and unfixed. (Depraz et al., 2003:8).

The benefit of using experiential data for research purposes does not lie in trying to evaluate the truth of the contents of the artist's account (which can never truly be verified), but by being relevant in terms of how the contents are of value in relation to the maker.

Varela's approach draws from three methodological traditions, (Introspection, Phenomenology and Mediation practices) to make rigorously relevant such data without reverting to the usual seductive aim of centralising objectivity. Merging these methodologies, Varela suggests the dynamic of 'becoming aware' (Depraz, Varela et al 2003) as being a disciplined way by which to consider experience.

It is useful to grasp that Varela is suggesting something more than simply the use of first person data¹⁶. He is concerned with the necessity of living out an experience in order to understand or know something deeper. So rather than look at experience from the 'outside', he suggests that something deeper might be known 'from the inside'.

I thought that practices in drawing (and in art more generally) were uniquely placed in respect to this. The experience of the drawer would be central in bringing this about because *"..... the substance of experience is what we bring to what we see, without our own contribution, we see nothing"*. (Milner, 1957/1971:27)

3. What drawing might have to say about embodied thinking.

I found in Varela's expositions, the closest thing to a workable definition of the thinking/drawing relationship. I also saw the necessity to take what I now knew back to the activity of drawing, partially because I was aware of the danger that theory could lack any literal coherence (Palmer 2003)¹⁷, but also because I now knew that what a practitioner could usefully add to the debate might be highly relevant.

In moving towards understanding of what I meant by 'embodied thinking', I was able to identify the ways in which other practitioners had discussed drawing/thinking. Most relevant were practitioners whose revelations about thinking emerged through the generative experience of making drawings¹⁸.

I could also identify that inquiries concerned with the drawn prospect of interrogating *how* things are, rather than *what* things are, were of most relevance¹⁹.

Two texts caught my attention; Marion Milner's book *On Not Being Able to Paint* is an exposition of thinking through her own immersion in free drawings (Milner 1957/1971); and Frederick Franck's *Zen Seeing, Zen Drawing* provides a description of how drawing can rely on seeing as state of being. (Franck 1993).

Neither text made direct reference to 'Embodied Thinking'. Indeed Milner interprets her drawings through the spectacles of psychoanalysis, and Franck describes a process of drawing as a mode of meditation. But both used experiential accounts of engagement with the process of drawing as a method of self-revelation about the nature of thinking in regard to themselves and the world at large, each describing a dialectic which arises through partaking in the activity²⁰.

Revelations about the nature of togetherness and separateness occurred to both because the process of making a drawing concealed an indication of how an integrated mode of thinking was being driven.

Marion Milner- Experiencing the Dialectic

Milner began considering her experience of making drawings as a development of previous research to discover what might make her happy (Milner 1934/1986). She came to discover a duality to modes of thinking as a result of diarising her experiences, and noted "...all the difference in the world between knowing something intellectually and knowing it as 'lived' experience" (Milner, 1934/1986:14).

Thinking involving a 'narrow focus' described a mode of reason, "...seeing life as if from blinkers and with the centre of awareness in my head" (Milner, 1934/1986:15). Thinking with a 'wide focus' revealed a state of mind unknown to her, which ignored the laws of logic (Milner, 1934/1986:125), and was more a state of being "...which meant knowing with the whole of my body...". This was what made her happy.

Through self-observation she became aware of the unexpected aspects the 'wide focus' served to mask, which became key to discovering how the narrow focus often took precedence to the expense of the wide focus. A better balance might occur if one stopped trying to change the world (i.e. the position assumed by the narrow focus) in favour of a response to change ourselves (i.e. taking up a wide focus).

An account of her quest to find out "what the eye liked" as a method of learning how to paint²¹ is found in her book *On Not being able to Paint* (Milner 1957), in which she showed it possible, through self-observation in the production of free drawings (i.e. drawings which were not consciously willed or planned) and accompanying writings, to reveal something of the hidden decision-making which lay behind what appeared to be a spontaneous process²². This gave an indication of how spontaneous ordering forces could express themselves through action.

Experiencing the dialectic

"....in the meaningless scribble type of drawing the line fails to answer back and suggest the idea of an object or pattern;... When this happens I often want to take refuge in the "trying-to-draw-something" method, in which one thinks of something, for instance a donkey, and tries to make the lines go right, not letting them have their say at all and allowing no interplay, like a person who monopolises the conversation.....

But there is something in between drawing random lines with all thought shut away, and trying consciously to make the lines follow a mental image. This is to draw a little, at random, spots shadings or lines, then feel what these suggest and let the line go on, holding both it and the idea it suggests in mind, as it were organically with a whole body awareness not trying to develop any thought line by line but letting the hand go where it will and letting the line call for the an answer from the thought".

(Milner, 1957/1971:72)

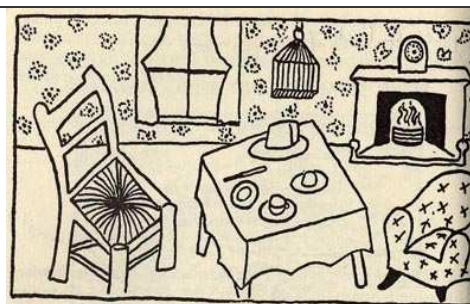
Key to Milner's method is in her ability to identify matters through her images. By using visual evidence in her drawings with written accounts of the experience of making, she was able to gain an insight into a dialectical process of thinking styles arising from the differences between willed and non-willed aspects to the production of drawings.

Deliberate attempts at image composition from preconceived ideas using a narrow focus of attention, less successfully represented the nature of her subject matter, than drawings produced using a wider focus of attention, (Milner, 1957/1971:13)



"One drawing certainly illustrated the curious lengths this narrow focus could lead to. It was not a free drawing but a deliberate attempt at imagery composition and at first it was not at all clear why two of the houses were at right angles to the slope of the hillside; the drawing defied the elementary facts of gravity and yet I felt a determined impulse to draw it like that.

But now it just seemed likely that it was a matter of narrow focus, the two end houses were thought of so much



..... I had recently found that whenever a drawing showed more or less correct perspective, as in drawing a room for instance the result seemed not worth the effort. But one day, I had tried drawing an imaginary room and after a struggle, had managed to avoid showing the furniture in correct perspective. The drawing had been more satisfying than any earlier ones but I had no notion why. Now it occurred to me, that it all depended upon what aspects of objects one was most

in isolation that each had its separate base-line of the earth regardless of the fact that it was 'together with' other items in the picture" (Milner, 1957/1971:12)	concerned with. The top of the table for instance, could be considered as a supporting squareness on which to lay the breakfast, not as a flattened shape with side-lines fading off to a vanishing point, as it seems to the contemplative eye when one sits down to make a sketch of it. And so with the chairs, the important thing about a chair seemed to be that it is below one, ready to support ones weight; and that was how I wanted to draw it.... It was as if one's mind could want to express the feelings that come from the sense of touch and muscular movement rather than from the sense of sight....It seemed one might want some kind of relation to objects in which one was much more mixed up with them than that." (Milner, 1957/1971:9)
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Far from being entirely the subject of freewill, she found that will power and conscious planning also had a role in the spontaneous process of making drawings, particularly to shut out interruptions and maintain the attention necessary to frame an emptiness in which to work (Milner, 1957/1971:104).

The integration of thinking and movement as a progression through contraries created something new because a drawing could embody a whole set of ideas not consciously known before (Milner, 1957:73).

The generative nature of the dialectic process caused Milner to feel the need to substitute "... *the word 'expression' of certain relationships into experiencing' certain relationships.*", because "...*the phrase 'expression of' suggested too much that the feeling to be expressed was there beforehand, rather than an experience developing as one made the drawing.*" (Milner, 1957:115)

Entry from Journal 05.12.05

Milner's comments.....reflect what I am finding so difficult to do. That is, to relinquish the stronghold of my intellectual and cognitive resources in order to lose control and allow the uncertainty of giving in.

This is what it means to me, to stop reading and theorising, and to have faith in partaking in the activity of drawing; to lose myself in the activity and allow it to lead to discovery.

*I keep hedging my bets, with plans, reading of chapters and timetables;
when I know the only way is really to give up and immerse myself in
drawing and observing my own experience.*



Clyde 4A

There was also a dialogue between what Milner assumed to be an issue between 'inner' and 'outer', to contend with, which was particularly revealed in her experiences of making the more formal aspects²³ of drawings

For instance, the inhibition prompted in a narrow analytical focus was revealed as being to do with the way in which the use of outline as a boundary, promoted separation. A wider un-analytical focus took on a willingness to combine the fragmentary nature of direct sensory experience in an imaginative whole²⁴ by producing so much more ordered wholes than those made by conscious effort (Milner, 1957:71).

Milner came to understand through these descriptions, something of the nature of the 'self' in terms of the personal pain one might experience with having to engage with the fear of relinquishing the emotional need to keep everything separate and in its place and face the sense of losing boundaries²⁵ (Milner, 1957:16). The illusion of the self as a separate being from the outside world could be maintained by using a narrow focus. Combining 'the inner/me' and 'outer/not me' in the process of drawing could mend this division (Milner, 1957:96).

Transfiguring the external world through this embodied way of drawing, showed me it was possible to give to it something that came from oneself. Here I came, through listening to Milner's account, to a hint of the problem that had also been troubling me when she wrote "...I could already guess that

it might be prejudice that made the knowledge of one's own part in the transfiguration detract from the value of it" (Milner, 1957:28).

I could see that it could take an act of faith to happily accept the indefinite nature of 'not knowing' as being important.

This might easily apply to the suggestion that thinking might be a matter of the relationship between perception (things) and imagination (thoughts we give to it ourselves) (Milner, 1957:28). But it could equally apply to being able to accept that the production of art work might not revolve around making an explicitly accessible answer as such.

Journal Entry on 25.11.05

...I know the only way is really to give up and immerse myself in drawing and observing my own experience.

In doing that through, there are repercussions about how I generally then go about the rest of my daily life.

Surrendering, even for a few hours produces a mindset which is submerged, lost and coming up for air after that is disorienting and de-stabilising.



Frederick Franck-Drawing as a Whole

Another account which harnesses the wholeness of the dialectic to drawing is also given by Franck in his texts and drawings (Franck 1973 and 1993).

His (re-)discovery²⁶ of the "artist-within" as someone who is concerned with Art as a Way of Being, arose as a result of realising "*that the seeing and drawing had fused into one single undivided act*" (Franck, 1993:ix). He called this "seeing/drawing" and from this fusion, he came to understand the indivisible nature of maker and drawing process, translating this into his understanding of the world at large.

Franck's work guides his reader to develop an understanding of how this engagement can occur, suggesting that by cultivating a certain way of seeing, the drawer can partake of a manner of awareness in an embodied process. He leaves open the possibility of what findings may then be made by the individual.

The first step involves the deconditioning the eye to understand the distinction between 'looking-at' and 'seeing'.

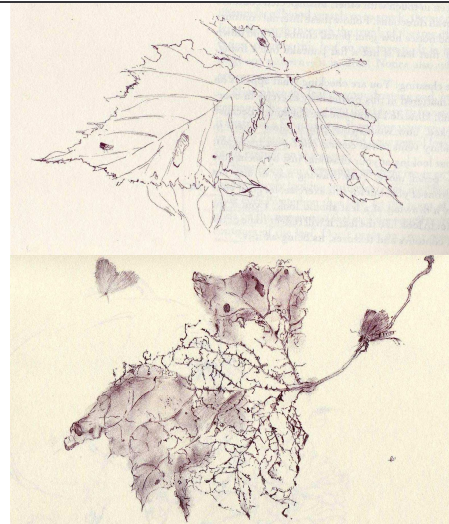
To draw whilst 'looking-at' is a matter of 'aesthetic estrangement' (Franck, 1993:2), because merely 'looking-at' things is done from a state of disconnection i.e. the act of 'looking-at' is not intimately connected with the focus of the observation.

However drawing can prompt the maker to become concerned with what is being observed²⁷. By means of concentrated attention in a state where "*all choosing planning thinking stop[s]*" (Franck, 1993:36), a manner of seeing can be brought about which has the effect of creating indivisibility between the observer (subject) and observed (object). Franck gives his own description of this;

"Nothing interfered between my eye and what it saw. Every dot, line on the paper had gone through my whole organism. I was no longer the onlooker; I had crawled under Africa's skin. Drawing the landscape, I 'became' 'that landscape, felt un-separated from it... This is what seeing/drawing really does; You become what you draw. Unless you become it, you cannot draw it" (Franck, 1993:6)²⁸

Seeing-Drawing

"When the eye wakes up to see again, it suddenly stops taking anything for granted. The thing I draw, be it leaf, rosebush, woman or child, is no longer a thing, no longer my "object" over and against which I am the supercilious "subject" The split is healed. I am drawing leaf or caterpillar or human face it is at once de-thingified. I say yes to its existence. By drawing it I dignify it, I declare it worthy of total attention, as worthy of attention as I am myself..." (Franck, 1993: xvii).



In this way it is being possible for the drawer to come into contact with a world about him/her in a re-connected and empathetic way, where there is no role for the 'self' of the drawer to be an independent entity because the connection erodes separate-ness. As an account of wholeness, this has the practical effect of co-joining the artist and what he/she sees.

I understood from Franck how a practitioner's account is able to describe drawing as a type of thinking that assumes both feeling and intelligent capacities. 'Looking-at' was cold-hearted, whereas 'seeing' was a matter of compassion which touched the 'hsin' or the heart²⁹ (Franck, 1993:36).

The roundedness of a description of thinking like this was what I had found so difficult to locate in other accounts of the relationship between thinking and drawing, but what I thought of as being so relevant to the kind of thinking

which happens in practice. It was also a type of thinking which I had curiously found to be so discouraged in art education.

Franck and Milner's depictions of the drawing process challenge ideas about thinking with the head because they refer to modes of thinking which occur through the bodily organism of the drawer. Franck suggests that 'seeing' can be effected, *"By not 'looking-at' it from the conditioned head, but by seeing it from the belly"* (Franck, 1993:9). In describing seeing/drawing, he advocates using a mechanism which disconnects thinking with the head, in favour of evoking a Way of Being where 'knowing what one is doing', is forfeited in order to fully connect through the body.

It occurred to me that Franck was also making reference to a process of 'coming to know' from a state of 'not knowing' because a feature of drawing/seeing was to become aware through losing the identity of the self through involvement with that process.

Not knowing was then a matter of dissolving boundaries between self and subject.

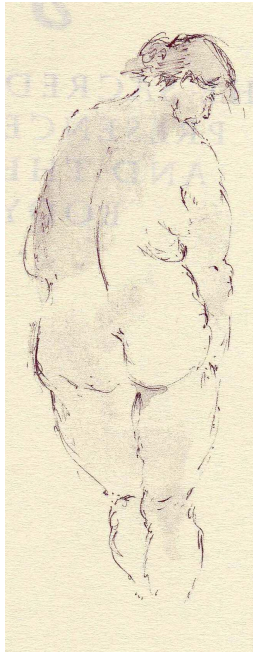
Varela, Milner and Franck, all make reference to awareness as being a matter of interrelatedness where the self is unfixed and "selfless". I had read about ideas in eastern philosophy which involved states of 'wrongheadedness'³⁰, where *"Those who see into the Conscious are able to create all kinds of things. Those who see into the Unconscious embrace all things within themselves"*. (Suzuki quoted in Brennan, 2005:88)

I was only able to meaningfully have some understanding about what this meant, by relating the descriptions given by Milner and Franck to what I knew from my own experience of drawing.

The experience of being fully involved in the process of drawing I could see, involved a 'state of being' where I was both forgetting myself and not knowing what I was doing, and in this sense, knowledge arose from a state of emptiness³¹.

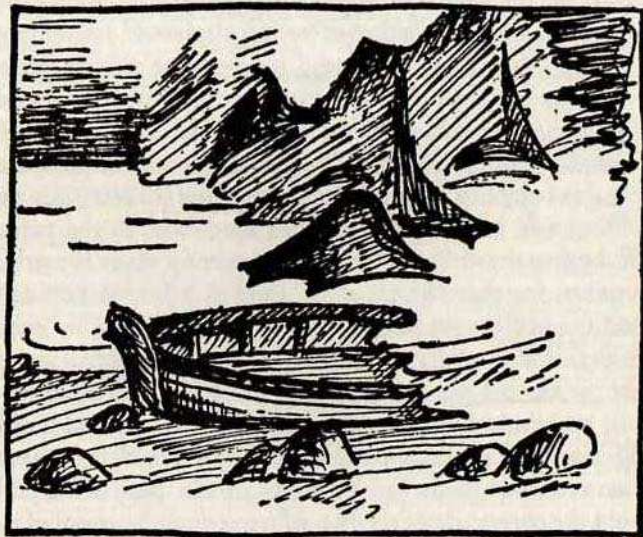
The role of Awareness; Franck "A true drawing is a very private dialogue between the artist within and some facet of the world around him or her. At the same time, it is the ongoing battle between the self and the Self. If the self defeats the Self, the drawing, however astute, is false, a pseudo-drawing.	Milner "It was not enough to treat the external object merely as a peg on which to hang quite fortuitous private fancies, I wanted what I imagined about it to fit in with what was really there, to make perception of the hidden insides and essential nature of objects fit in with what I knew, in moments of keenest awareness, to be really there.... And to do this, it was necessary to select those details of appearances which emphasised the nature of the 'soul' of what I was looking at, a
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(Franck, 1993:117)



'soul' which was both really there, but which also was something that I had given to it from my own memory".

(Milner, 1957/1971:120)



Franck frames his description of coming to know through the emptiness of not thinking by reference to Zen Buddhism, likening the process of drawing to meditation³², as a means with which to give up logical thinking and evoke a state where boundaries between self and other are blurred³³; *"Where this contact becomes intense enough, you forget yourself, you are on the threshold of the Zen experience"*. (Franck, 1993: 52)³⁴

Self-awareness thus describes a unitary source or mirror of itself, which grounds experience because it has a logical structure which accounts for its connection to a world of objects. *"In epistemological terms, knower and known are the same, and this instance of unity serves as the prototype of all knowledge"*. (Miraldo 2005:)

Engagement for Milner and Franck did not stop once realisations had been made about the process. Their realisations were tested against personal experience and from this a relational effect became evident. I could now appreciate that the way of discovering something new in terms of embodied thinking lay in the relational effect of what comes to be known and I thought that this was a major feature in the purpose of and reason for how thinking as the experience of drawing occurred.

Describing the relational effect-
Franck

"Having discovered the artist within me, I began to see the artist-within others, sometimes hidden within others, the human core of Everyone"
(Franck, 1993: x)

Milner

"For in the satisfying experience of embodying the illusion there has in fact been an interchange. Since the object is thereafter endowed with a bit of the 'me', one can no longer see it

	<i>in quite the same way as before; and since the 'me', the inner experience, has become enriched with a bit more of an external reality, there is now a closer relation between wishes and what can really exist....In fact, the aesthetic experience has modified the wish, moulded a bit of oneself into a new form by giving it a new object; and at the same time it has given a previously indifferent bit of the outside world a new emotional significance "</i> (Milner, 1957/1971:131)
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Likewise Varela described the relationship between human knowledge and cognizing organisms by reference to how evolution of the individual emerges and persists within a bounded system by way of a circular and continuous process³⁵

I remembered how Hill had also fully recognised this in relation to drawing, when he suggested that

"As an individual becomes conscious of the relational laws in drawing, he will begin to take notice of similar relationships in experience. The course of the stream works both ways; experience in drawing - arranging line, creativity form and space, relating parts, exploring various materials - will slowly act upon the vision of the sensitive individual affecting how he sees, even what he sees. Conversely, natural experience, as the ability to absorb and to see is developed, and will give insight into the internal nature of the picture." (Hill, 1966:36)

4. Conclusion.

This paper gives an account of the first phase of generative methodology I have used in research to establish the role and value of drawing in the process of coming to understand ways of thinking.

Varela's Enactivist theory makes relevant the role of experience in understanding how thinking occurs

Taking this into drawing, Milner and Franck, by relying on experience and self-awareness in terms of the process of drawing, also call into question two basic presuppositions of most modern epistemology, i.e. that experience is individual and subjective, and that it leads to knowledge only via a corrective process with input from the mind or other individuals.

It has become clear to me that 'seeing' for drawing purposes is not just a neurological phenomena but an active condition (Hill 1966) involving awareness as a matter of interrelatedness. This can occur as the result of

being able to let go of the mental hold of intellectual/ analytical knowing which keeps subject and object separate (Milner 1957/1971).

Connecting the ideas of Varela Milner and Franck (and various peripheral others) has allowed me to appreciate how Varela's 'loop' might be joined up - as a relational wholeness in the process of drawing.

Milner used her understanding of the dialogue between the narrow and wide focus to make revelations about her own role in the process of drawing/thinking and in relation to the wider world³⁶. Franck used seeing/drawing as a process through which he could experience a connected understanding of reality.

I connected the drawing process through which they had found that the self might be part of the whole to the 'loop' Varela described in his autonomous self-referencing autopoietic system. I came to know that the production of a drawing could have its own bearing on "*coming to feel a significant reality of the external world*". (Milner, 1957:26). I could also see that it was the *experience* of drawing which revealed this innate way of thinking.

Engaging with the activity of drawing might provide more than just an ability to use theoretical ideas towards being able to explain phenomena; drawing could now become the active condition in a generative methodology to investigate this.

I had to ask myself, what more could I offer to the considerable findings of my guides, as it seemed unlikely that I could improve on what they had come to know³⁷.

I became aware that what I was coming to know about the activity of drawing was not new because as Franck pointed out, it is "venerably old" (Franck, 1993:10).

But what I *am* discovering is an understanding of the importance of 'coming to know' through the activity of drawing and how experiential accounts of engaging in the process have a place in accounting for the production of knowledge.

I have come to see that ambiguity and 'unknowingness' as part of that experience can play an important part. Rather than disregard or devalue these aspects, they can be relevant not only in understanding our own practices, but can make a meaningful contribution to ideas in other disciplines³⁸.

Of perhaps most relevance, is coming to know how to the proper integration of subject matter with methodology in the practice of drawing can be accounted for. The possibility of being able to make findings about an embodied subject matter through an embodied methodology was surely a matter of embodied thinking.

I now continue to test the concept of drawing as an embodied aspect to thinking through a second phase of methodology involving interviews and work in the studio.

Journal Entry 15.10.05

I don't think I have yet come to accept; I can feel the desperation to work it all out; to plan; to structure; summarise some findings and to plot a course. Perhaps then, the beginning of research is to learn how to drop the mantle of expectation; to find a way of coming to terms with letting go of the effort to find new knowledge. To begin to acquaint myself with ways of 'being' that allow things to occur or just be. And then maybe look at that, or do something else which occurs naturally.

Notes

¹ Sayer is referencing the uncritical dependence of a discourse which relies on dualist propositions.

² How I could explicitly express something which was 'not known', created another set of problems. To start with; is there a need for it to be talked about? In many ways I tended to agree with Henry Moore, when he suggested that;
"It is a mistake for a sculptor or painter to speak or write very often about his job. It releases the tension needed for his work. By trying to express his aims with rounded-off logical exactness, he can easily become a theorist whose actual work is only a caged-in exposition of concepts evolved in terms of logic and words.... The artist works with a concentration of his whole personality, and the conscious part of it resolves conflicts, organises memories, and prevents him from trying to walk in two directions at the same time." (Claxton, 1997:94).

³ Galbraith refers to accounts of how the production of knowledge that comes producing a text, occurs only as a result of either "knowledge-telling" (a form of 'think-say', which relies upon ideas being retrieved from memory in response to the topic, and translated directly into text); or "knowledge-transforming", in which there is a two way interaction between the 'content space' and the 'rhetorical space' of the text, allowing the maker to produce not just a translation of existing knowledge, but an element of transformation when content does not satisfy goals (Scardamalia and Bereiter 1987 and Flower and Hayes 1980).

⁴ A description of writing made by E. M. Forster in Murray, 1978: 101-102, referred to in Galbraith, 1999: 138.

⁵ Enactive Cognition is not the only theory to describe embodied thinking. The Embodied Mind by Lakoff and Johnston supplements the holistic body/mind view from a philosophical stance, by suggesting that the mind could only be understood by taking into account the body and more primitive underpinnings of the mind (Lakoff and Johnston 1999). But I found that texts concerning embodiment (Noe 2004), thinking through movement (Sheets Johnston 1999, Csordas 2002), and consciousness studies (Velmans 2004, and Gallagher and Marcel 1999) were curiously disembodied, and seemed distant to the reality of drawing.

⁶ Enactive Cognition describes mechanisms that share common themes with Varela's earlier work concerning Autopoiesis (Maturana and Varela; 1987), in which it is suggested that knowledge evolves biologically through self-referencing systems (on the basis of cellular organisation). Varela's theory falls also be described as a Systems Theory, an overview of which has usefully been considered in relation to the process of Art by Francis Hallsall (Hallsall 2004).

⁷ Varela describes Sensorimotor ‘coupling’ between organism and environment to show how neural activity and the coupling mechanism affect each other and form patterns between perception and action).

⁸ Francisco Varela (1946-2001) was a biologist who described himself as being “... interested in the biological roots of cognitive phenomena” (Varela 1990). His early work with his mentor Maturana, was concerned with identifying what is common to all living beings, and their studies found evidence of autopoietic systems i.e. autonomous systems with a unitary nature, whose autonomy was “brought forth” by the system itself (Maturana and Varela 1980).

⁹ Varela describes Enactivism as an alternative view in Cognitive Science, to both Cognitivism (to which Dennett’s theory belongs, where Cognition is an issue of mental representation – Dennett 1991); and Connectionism, whereby “systems made up of simple components, when connected, give rise to global behaviour corresponding to the desired task”. (Varela et al., 1991:8). Varela’s theory differs predominantly to these others, because he finds a need to deal with “meaning”, which other cognitive scientific theories lacked, and further questions whether cognition is a matter of representation at all.

¹⁰ Others such as Clark (Clark 1997) also deal with an integration of self and reality in an inseparable way.

¹¹ Gardner suggests that one reason for this is because “*Among the individuals who have proved extremely difficult to study under ordinary conditions are artists; such creative persons are few, display little sympathy towards empirical investigations, and possess skills of such fluency that they defy dissection and analysis.*” (Gardner 1982).

¹² Description of imagery in the scientific process has been widely commented upon (Gowan 1978; Holton 1978; and Goodfield 1981) by psychologists and scientists, but very little has been written from the point of view of practitioners. I do not discount the research done by Getzels, and Csikszentmihalyi (Getzels and Csikszentmihalyi 1976), although this was done from a third person perspective.

¹³ Reliance on the experience of the artist as a means of investigating the dialectic between logic and intuition is perhaps timeous, given the current general concession to the scientific method in research. Milner notes the lack of use of experiential data at the expense of the scientific method; “*It seemed to me that science and logic knew a lot about the first phase of the rhythm, the detached way of looking at life in which self and other are separate. But the second half was much less understood, because, in order to study it at first hand, science had first to experience it, and that meant science denying itself and taking the plunge into a different way of being.*” (Milner, 1957:126)

¹⁴ Varela describes a first person account as the subjective “*lived experience associated with cognitive and mental events*”; as opposed to ‘third person’ objective views of phenomena, which are not linked to human agents, such as those provided from scientific method or shared knowledge (Thompson, 1999:1).

A discussion of the pro’s and con’s of this assumption is made by Jonathan Sher (Sher 1997).

¹⁵ The experiential account could also be said to be a representation in it’s own right, a product of the subjects own active construction (Reissman, 1993:10), and the research process of which it forms part, has the effect of further converting it into a ‘false document’, through the different levels of representation it acquires as a result of going through being attended to, told, transcribed, analysed and read. (Reissman, 1993:15)

¹⁶ My own use of first person data is use in a way that is slightly different to that envisaged by Varela who uses it to bridge the gap between experiential accounts and science in his later methodological theory “neurophenomenology”. This method, (designed to be used in a neuro-scientific setting), aims is to investigate how experience is interwoven with neuro-correlates, instead of maintaining a static parallelism between subjective/experiential data and scientific neurological data, in order to investigate how the interrelation benefits both approaches.

Varela put his neurophenomenological ideas to the test, by looking at the experience of time (Varela 1999b)

¹⁷ Mark Palmer's words summing up the relationship between theory and practice in the context of PhD research had been running through my mind each time I came out of the library; *"If you start with a project, you'll find that you spend time seeking a theoretical framework to "explain" the work. Theoretical work should address the same problem as practice, not attempt to explain or justify decisions made about the work. Unless you do this, you'll find that your "theory" will be doomed to lack any literal coherence, as having been doomed to "explain" your practice it clusters around the work rather than working through the work with any rigour"*. (Palmer 2003)

¹⁸ Although his thesis was textual only, Baileys work concerning Drawing as a Phenomenological Activity, was also instructive (Bailey 1982)

¹⁹ Because of this revelation, I had been able to narrow my enquiry from the large number of practitioners whose work had initially seemed potentially useful (including Klee (1969), Tversky (1999), Willats (1997) and Hill (1966), and in terms of methodology, Saorsa (2005) and Wilson (2005).

²⁰ I should say that I came to know about both of these works fairly early on in my research, but their significance only became apparent as a result of both being involved in making my own diarised account of what I could come to know through the experience of drawing during the early stages of my research, and also coming to understand the role of the experiential account in forming knowledge from an embodied perspective

²¹ Milner's accounts were also produced in a response to what she saw as the educational problem, concerning basic principles of education and the types of thinking educational issues might involve and address. In this sense, her investigation was to do with the process of learning and it was with this in mind, she approached a painting as a specific area in which she had failed to learn something she had wanted to learn (Milner, 1957/1971:xvii). She also had in mind the therapeutic context of her work.

²² This is not un-similar to Galbraith's finding that a distinctive feature of many descriptions of writing as a method discovery by writers, is that they make no reference to the 'thinking behind the text', but characterise and explain the manner of their thought processes through descriptions of the process in which they are engaged (Galbraith, 1999:138)

²³ Most recently, the idea of what is meant by formal aspects of drawing was discussed on the JISCMail network amongst drawing practitioners. The URL reference for this discussion group is <http://www.jiscmail.ac.uk/lists/drawing-research.html> (accessed 12.06.06)

²⁴ Hill also suggests this by describing (using the example of a drawing by Pisanello), how a sharpened observation in the act of drawing could allow the practitioner to discover *"..... something about the living object before him.... something to do with the totality [of the object being looked at]....."* (Hill, 1966:9).

²⁵ I also read that *"People must surely be afraid, without knowing it, that their hold upon reason and sanity is precarious, else they would not so resent being asked to look at visual experience in a new way, they would not be so afraid of seeing the world as they have always seen it and in the general publicly agreed way of seeing it."* (Milner, 1957:17)

²⁶ Franck values what he came to know through the mode of seeing as being of personal; relevance because what he is discovering has been discovered visualised and written about before. However his concern is to communicate how this facility can be re-discovered through an account being given by one practitioner (himself) to another (the reader), highlighting a mode of discovery which gives others the opportunity to then discover something for themselves. In terms of the enlargement of knowledge, he describes this as *"...not an expansion of consciousness but its intensification"*. (Franck, 1993:10),

²⁷ I also appreciated that describing the experience of drawing could make the transcendent characteristic of indeterminacy (Merleau-Ponty, 1962:169) quite explicit (O'Callaghan 2002)

²⁸ Franck gives an example of an exercise he might use in a workshop, of drawing a leaf, to assist the reader to rediscover seeing and cultivate this awareness. He suggests beginning with a period of intense observation of the leaf, followed by a slow process of transferring the observation onto paper, firstly by moving the point of a pencil over the paper as if caressing the leaf, whilst continuing the observation without checking the marks made.

This involves only drawing what is seen, rather than what one thinks ought to be there; the drawer is advised to "*Let go of your expectation of how a drawing of a leaf should look*", so that "*Even if the drawing turns out not to look like the leaf, it will reflect some of the truth of the leaf, its contours and textures, it's being-as-it-is*" (Franck 1993:55)

²⁹ Franck's description of what goes on in the drawing activity describes a way of thinking that involves the heart; "*It is the Kokoro [The Japanese word for mind/heart, the spiritual core, our soul] that brings drawing to life, that transmits its spirit to the one who views it. The drawing becomes the communication from heart to heart, from Kokoro to Kokoro. Art is the function of the kokoro*". (Franck, 1993:37)

³⁰ Awareness is talked of as being a state of 'wrongheadedness' in which Harding advises, "*Behead yourself!.....Dissolve your whole body into nothingness. Become seeing, seeing, seeing!*" (Harding 1981:1)

³¹ Milner had also understood in producing her free drawings, that an emptiness could occur where individuality was given up by the artist, (O'Callaghan, 2002:142) and what conscious planning there was in relation to free drawings, was to provide attention towards a framed emptiness (Milner, 1957/1971:104). Likewise Ryecroft mentions this as negative capability in creativity i.e. where something comes out of a negative feeling of nothingness (Ryecroft 1980:218)

³² The mechanism and purpose of Meditation is a mental and physical course of action which a person uses to separate themselves from thoughts and feelings in order to become fully aware.

³³ He makes particular reference to the ideas of the Kyoto School whose proponents espouse a mixture of Japanese philosophical thought and Buddhism (Franck 1982 and 1993). A central figure within this School, Nishida Kitaro, suggests that "Pure experience" (Nishida 1990) is not only the basic form of activity (in which the same level of importance is given to intuition as to intellectual thought, on the basis that both are derivative forms of pure experience); but it is also a basic reality. There is some dispute as to how Franck defines the Kyoto school. Heine makes comment that the Kyoto School generally refers to the philosophical writings of Nishida Kitaro who insisted on a starting point of experience and a non dualist account of the world; whereas Franck makes reference both in Zen Drawing and in earlier work (Franck 1982) to one branch of the school, particularly referring to Szusuki, who was responsible for popularising Zen in the West (Heine 1984).

³⁴ Whilst examining aspects of Zen Buddhism is out-with the remit of this research, it is useful to know that both Franck and Varela make connections with Buddhist practice, particularly in the context of developing a pragmatic methodology to make discoveries via embodied thinking, so I mention this on the basis that this is relevant to the context of their work, as opposed to this being linked to a more general notion of embodied thinking. Buddhist practices focus on personal spiritual development to reveal deep insights into the true nature of life. Whilst Zen Buddhism resists definition, it can be said that it is something a person does rather than a concept which can be described in words. One is to experience it to understand it, because the essence for enlightenment comes from inside and all you have to do is to find the answer in ourselves. "*Zen is the breakthrough from the Me to the True Self*" (Franck, 1993:25)

³⁵ A Methodology which utilises experience as a core for research and looks at the relational consequence, might well draw useful concepts from Gendlin's notion of a "felt-sense" (1978) perception which draws on bodily sensations to deepen images and thoughts or Serlin's "Kinaesthetic imagining" (Serlin, 1996) as a method of developing Kinaesthetic ways of knowing through bodily sensation and meaning-making.

³⁶ Milner's use of drawing as a bridge between the conscious and unconscious from which she identifies through her images, how her inner material is projected into the outside world, and from which a new reality might be revealed, (O'Callaghan, 2000:137), parallels in psychoanalytical terms, and has been considered at length in relation to Winnicott's ideas of transitional space and object concept (O'Callaghan 2002).

³⁷ There were many aspects in the writings of Milner and Franck, which I could meaningfully understand by reference to my own experiences of drawing. However, there were also parts which I could theoretically comprehend, but will perhaps come to understand if I experienced the same in due course.

³⁸ This is resonant of Graham Sullivan's term "trans-cognition" (Sullivan 2005).

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