

## Creativity is the Naturalized Self Experienced in Ontogenic Drift

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**Abstract.** This paper deals with embodiment as a form of learning and experiencing the world. The first person experience and manifestation of being is promoted through sense awareness and mind-body relationships to develop a condition of consciousness through perception. It is argued that creativity is available through a conscious bodily experience in an evolutionary ontogenic (Maturana & Varela, 1998) drift situation when it is not controlled by Cartesian methodology but left to emerge in a conscious embodied way, situated and open to change.

**Keywords:** Awareness, ontological, experience, drift, perception, emerge, consciousness

### 1 Introduction

A first person experience of intentional subjectivity takes into account that the body is the subject of perception and the vehicle through which we experience the world in space and time. By taking the body and the mind into the experience, the student participates in the activity and in the thick of the moment is able to embody and comprehend the experience. What has been learned is activated through this system-of-knowledge but what is still to be learnt through the environmental influences will impact and shape new knowledge relationships. In epistemic terms creativity can be likened to the design process as a learning event which is grounded in an autopoietic action of re-construction and re-creation. It is important that un- thought out, un- categorized prepropositional experience remains open-ended to allow for changes to take place, if students are to progress to a full immersion of their experience.

Being in the present awareness of a listening self, is being investigated as and when perception leads to an understanding of ontogenic drift. In the natural biological world, of which we are a part, '*structural drift*' remains open-ended to allow for changes to take place, if students are to progress to a full immersion of their experience. '*Structural drift takes place in the encounters between organisms and environment which are operationally independent*' (Maturana & Varela,

1998). The process of structural drift may appear to be haphazard, but it relates to how a change, that influences a part of an organization, will change and cause the whole structure to be changed. In this process the cybernetic experience of acting, reflecting and re-creating is entered into.

The following project will investigate the adaptability of students to form relationships with their environment and in so doing, experience how ontogenic drift and change can influence or assist the design process and how the students can make meaning of and access their understanding of creativity.

The aim of this second year Surface Design project entitled The Forest, was to access an awareness and a feeling of participation that transcends the subject-object split in an ontological sense which will lead to becoming one with nature and the environment in an awareness of being which can be described as 'letting go and letting be' (Heidegger) without the interference of ego. A personal situatedness in relation to design origination is intended in assuming the attitude of 'letting go and letting be'. It is believed that self-referential design methods provide access to innovation and allows for a progression in evolutionary thinking from first to second order cybernetics.

In essence the class agreed that creative design could emerge from an embodied experience of the forest and the students understood that a felt experience could contribute to the development of the concept (creative process) and innovative design for the project. We came to this agreement after a discussion around the definition of design and 'wicked' problems (Buchanan, 2009) which are ill structured tasks and the fact that students can expect to be confused. The ability to remain focused and interact with the environment will depend on how well the process has been internally organized.

Armed with sketchbooks, journals and cameras students ventured into the forest environment and spent a day in the forest. Upon their return they were to develop their ideas, experiment with different media

and eventually design a floor for a living room of their choice.

## 2 Foresters

Seventeen students returned with very little to show. Some had bad representational drawings of trees while others had ill-conceived marks in their journals. A Chinese student, Cai, made a drawing focusing on her shoes. She experienced a gut resistance to the forest and lacked perceptual access to understand and track involvement and the use of her senses. She became disinterested in the project. Back in class Cai insisted with her own tree branch design executed in carved wood and refused to try anything else. Cai grew up in a city and was deprived of interaction with nature thus the forest was foreign and frightening to her.

How does the brain generate leaps of creative insight in a situation where students are fearful and closed?

Understanding our world, as a network of relationships, and how we fit into our environment of experience, depends on how we perceive ourselves and the other. The content of the world is embedded in experience and is therefore available in experience through the interaction of the person participating in the world. Another student, Tersia, came to the understanding of her reality through the process of criticism, tears and emotion verbalized eloquently in her report:

*‘Up to this day, I cannot understand how I picked up that black paper and started piercing holes in it. I know why I pierced those holes I was still hurting and confused I felt alone like no one understood how I felt. It was as if a light bulb went ‘ping’! The pine cone needles I picked up actually had significance. It all suddenly made sense the way I felt was exactly how I felt in the forest: alone, unsure and lost in general. The feeling was so vivid that it finally made sense that I built a relationship between the two. I was confident and excited. I wasn’t even thinking whether Julia would accept this or not because it made sense to me and I knew that it would be accepted because it was the truth. My truth. I realized that I did experience the forest!’*

Tersia developed a design that she embroidered with needle and thread (Figure 1) onto black and grey paper and continued the development of Figure 2 to her final floor design. The holes in the paper from the needle symbolized the specs of light shining through the forest trees.

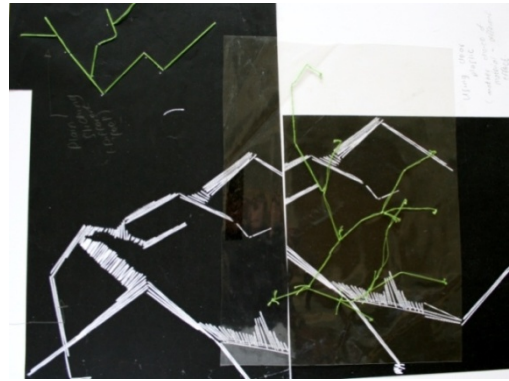


Fig. 1. Embroidered paper

Students were asked to write a narrative about their forest design but it turned out to be an impossible task. I concluded that their thinking emerged to be separated from the ‘story’ of their experience in the forest. The feelings they were embodying in the moment of perception were not realized. The struggle with embodiment seemed to be the main problem that resulted firstly from ‘the physical mechanism of perception’ that will ‘answer to our basic, emotional, reactionary conviction in the reality of self’ (Varela et al., 1997). Secondly, we relate to all experiences with a classification of good, bad or indifference yet these feelings do not shape the self. The problem of not including the self in reflection seems to be what causes disembodiment and alienation to happen. To overcome this struggle, the Buddhist text that will be referred to later, has provided a method that Husserlean phenomenology could not provide.

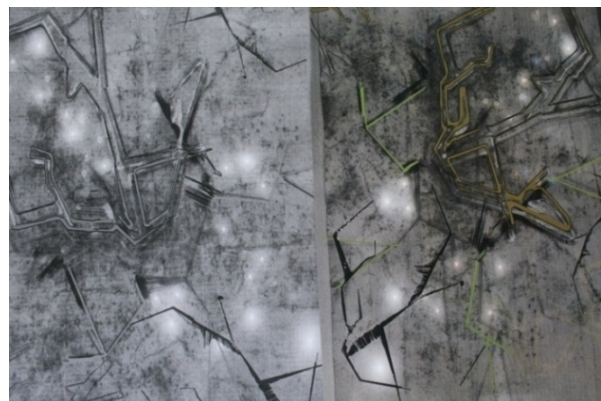


Fig. 2. Embroidered design

Students masked their felt instincts with generalizations they thought were expected of them as they have been habitually used to responding in a culture of Cartesian logic. In the forest some of them experienced anxiety and confusion because they opened themselves up to a newness of perception and

a myriad of understandings and feelings happened for them at the same time which was difficult to interpret.

*'I forgot about my experience in the forest. I did not 'feel' my design. My design did not have meaning and I was not involved with my design. I was frustrated, angry and just wanted to cry and scream.'* Nadine (Figure 3)



**Fig. 3.** Tissue paper experiment

Next, in the moment of experience the ego dominates decisions such as desire, anger and rejection. Compounding the ego in the process to consciousness is the habitual pattern of doing, thinking, feeling and perceiving which causes deep seated habits. Finally we need consciousness to express the given experience in order to arrive at the state of creativity. However, to be able to make sense of experience requires open mindedness, knowledge, training and method.

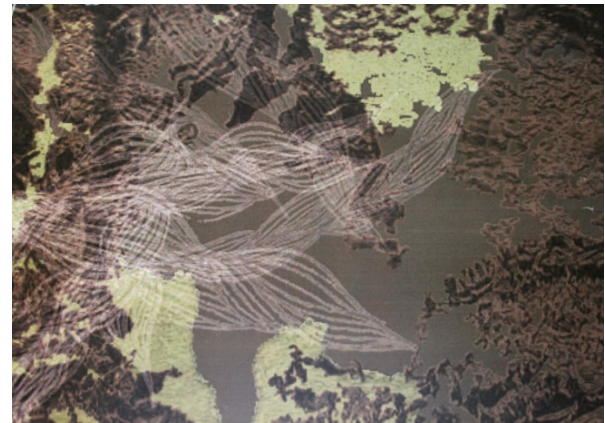
Joy, and a sense of wonder and freedom, considered as natural developmental first reactions, were missing from the forest experience. In *The Listening Self*, David Levin describes the first phase that we experience as an infant as 'pure joy'. The joy of pre-ontological understanding in the early infant phase is pre-personal, pre-egological with an absence of self-consciousness and with no development of subject and object (Levin, 1989). This underscores the loss and inability of students to participate with an abandonment of being that happens in infancy as the Self comes into being which is now evident in the student's struggle to experience interconnectedness with their environment. It is expressed by Nadine in Figure 3 and Marieke in Figure 6.

*'I let go of my insecurities and got down on the forest floor, literally crawling on the ground and lying beneath mushrooms and leaves on the forest floor taking photographs of skeletons in the light. I became*

*more connected at this point and began to feel more nervous as I respected nature.'* Francesca (Figure 4)



**Fig. 4.** Tree bank experiment



**Fig. 5.** Tree bank design

*'I feel a particularly big part of learning happened for me with regard to my preconceptions holding me back and not allowing me to fully express, experience and embody my surrounding.'* Marieke (Figure 6)

My second reflection now is: Can creativity survive the condition of abandonment of (Self) Being?

In an unrealized or unconscious state of being where Cartesian objectivity directs students' work according to rational objective criteria, the subject's disembodiment and problem solving paradigm can result in a sequential stream of consciousness causing illusion. It can be identified as an unfiltered product of our mental process. As human beings we cannot dislodge from our surroundings because as Merleau-Ponty explains in *Phenomenology of Perception*, we are the subject of our perception and the body presents itself to us in a conscious state as it experiences the world in space and time (Merleau-Ponty, 1962). When we embody our experience we can reference the content of what is happening.





Fig. 6. Forest drawing

The meaning can be discovered following intentionalities (Van Manan, 1990) of things past or projected into the future. To be able to reference the content of what is happening to us in the moment, the Buddhist text, the *Abhidharma* describes six phases:

*'(1) an initial phase of formlessness, or openness, (2) a phase of sensation, the advent of bodily felt forms, (3) a phase of feeling, when global moods of ontological attunement emerge and predominate, (4) the phase when motivating intentionalities arise and patterns of desire (attraction, aversion, indifference take hold), (5) the phase when object-orientated, ego-logical perception arises and prevails and finally (6) the phase of conceptual articulations.'* [9] I will use this phase description to anchor the bodily content understanding when I draw a parallel with ontogenic evolutionary drift [10] in the following section.

### 3 Ontogenic Drift

If we acknowledge that the content of our understanding of the world is embedded in the relationships leading to action that we form with it, we

must also accept that adaptation and change are implicit in the process (Doll, 2008). Humberto Maturana and Francisco Varela's *Biological Roots of Human Understanding* provide us with explanations of how living systems work. The living systems theory is a network of relationships where we are points among social networks rather than individual characters. Every awareness that a person can distinguish is in cooperation with its existing environment, which means that living systems are knowing systems and are always engaged in action according to Maturana. Today we cannot consider a life on our own as ego-centered individuals apart from our social and historical background. We celebrate the disappearance of *'intellectual and social space which makes cognition a mentalist representation and human being a rational agent'* (Varela, 2009). The change in paradigm from seeing the human as discoverer to being part of the creation of the world is a phenomenon that confuses students. On the one hand they are part of the network in our technological society, but on the other, where understanding, situatedness and meaning-making take centre stage, they become frustrated, emotional, aggressive, uncreative and inactive.

From a mind developing apart from the body, at school level, to suddenly feeling what happens and to be able to respond with a sense of agency – taking ownership of images and the object that caused them, is a giant leap to experience for students. Images are being used in a sense of neural patterns which then become images that constitute our thoughts as we lift the veil on how we become conscious. For the mind, body and spirit (the sense of self) to be in a relationship with the object, the forest, in the act of knowing, can be classified as core consciousness (Damasio, 1999). If we think of core consciousness as our basic human quality, what Damasio calls *'extended consciousness'* that spans our entire life- our past, the future and the present world- then extended consciousness is our medium to experience creation.

The consciousness experience happens through perception where changes occur in the body.

*'Note that, depending on the object, there may be different proportions of musculoskeletal and emotional accompaniment, but both are always present.'* (Damasio, 1999)

In the initial stage of *'a moment of perception'*, the first moment of encountering the forest experience, according to the Buddhist text referred to earlier, is a phase of formless openness which is the search for an embodied praxis that correlates with the suspension phase suggested by Natalie Depraz et al (Depraz et al., 2003) where a person's realist prejudices are suspended in favour of an open attitude towards the environment. A second phase of sensation and a third

phase of feeling, if re-directed in awareness from the exterior to the interior, helps students to attune themselves to their environment.

Re-directing signifies a change in activity from actively doing to waiting and 'letting-arrive'. The stage of feeling, which the Buddhist tradition describes as an expansive global ontological attunement, is '...as much a matter of the Husserlian version of the reduction as reflective conversion as the Heideggerian version of "the turn" (die Kehre), an affective pre-understanding which lets-be (Gelassenheit) and lets the event come forth.' (Depraz et al., 2003)

If there has been attentive or mindful experience during this phase above, the next and last phase of accepting and letting-go, is in essence what is meant with ontogenic drift. You are in the moment of experiencing the act of attention that you have been patiently waiting for, which is pre-reflective but focused on something to take shape or to be revealed as perception. It is a time of closeness to discovering what exists without presuppositions, and at the same time to remember pre-verbal realities and to open up to yourself, thus practicing the phenomenological reduction of less-seeing in favour of learning-to-see (Zahavi, 2002). Accepting is more passive than knowing and when you accept to listen for something to emerge; you allow yourself the creative experience of ontogenic drift. This experience can be described as a dynamic of a pattern of self generating networks, or autopoiesis (Varela). The Foresters are standing at the edge of discovery after a conscious experience to interact with their creative response.

#### 4 The Dog Whisperer

The approach to this project done in 2009, emphasized self-activity and the belief that students are their own best agents in the acquisition of meaningful experience that they can understand and develop. The teaching intention was to use the students' conscious living experience to reveal design relationships, emerging intentions and communicative, sustainable, functionable and moral messages. We accept that our development as humans depends mainly on our environment and also understand that our living condition is environmentally bound. Mindful experience is an ongoing transaction between organism and context whereby both subject and object are interrelated in the process as well as transformed by the process. What we desire to learn and guide our student to is the knowledge that every new journey opens up new possibilities and the ability to grow and discover.

Rushda overcame her Self and recognized the urge to free her mind into the world and to contextualize herself through metaphor, she accepted my suggestion of Dog as her applied object for her fabric print in the project '80days of self-reflection'. The students drew themselves each day for 80 days in their journals after which we printed a continuous fabric in a one colour print. The object in question became known to Rushda's consciousness hidden between layers of hurt and abuse. The reason for choosing Dog, was

Rushda's repetitive descriptions of her identity as subservient, spoken to, not given an opportunity to speak, not listened to, used and abused at home and feelings of inadequacies and low self-image. She was also referred to a psychologist on campus during this time. The design process started by her answering the following leads in her journal; I want..., I think..., I like..., I feel..., I don't like..., I need..., I can....

From these passages Rushda then made associations, words and images, sketches and finally a three dimensional scale model of her Dog design. Her biggest struggle was the 3-D interpretation from her sketch to her envisioned product. She understands the world as a two dimensional space: shadow shapes moving through flat space, squashed flat simulating her small frame. From her design she was going to cut two shapes, sew them together and then stuff them with hollow fiber, like a pillow. Rushda could not conceive of constructing an independent dog design. After many trails and errors she finally came to grips with how height, width and depth exist together in a construction. When she presented her project to the class her eyes misted over and she could not fight back the tears as she told the class about the Dog Whisperer. Her mother and father eventually both assisted her in assembling the Dog as the healing process started working and she felt triumphant that the dog could stand by itself. Rushda pointed to open spaces left on her Dog for a continuation of embroidery which she added to the print and which would represent further developments in her journey with her family.

It was impossible for Rushda to invent her own object/metaphor. She responded to her world unconsciously; lacking 'first-person' access of deciding and choosing her own actions or point of view. This uncertainty prevented her from noticing or understanding her experiences and she could not recall imagery or narratives from the past that could be useful or meaningful. The core consciousness necessary in Design is a sense of self and the other that is ceaselessly in flux and is re-created with every possible interaction. It is important for designers that we pay attention to our experiences because it is the primary source of our data for design, as it emerges in

everyday life. For the viewer, the entry point has been created where meaning can be interpreted through a sense of urgency that Rushda's journey reflects: the interactive canvas for her and her parents to continue their dialogue in a visual manner using embroidery.



Fig. 7. Rushda and the Dog

## 5 Conclusion

Through this account of embodiment as a way to access our creative response experienced in ontogenic drift, the learning begins with self discovery. This type of learning which is actively engaged in the world and which influences the way we think and feel and react, will have an effect on how we make sense of the world and our lives. I have offered the processes followed by students as well as the eventual results to provide some sense of progress in answering the two critical questions I have posed viz *How does the brain generate leaps of creative insight where students are fearful and closed?* and *Can creativity survive the condition of abandonment of (self) Being?* Both are interrelated questions and the answers seem to lie in the art of gently leading to that particular and peculiar, momentary space and place of letting go and letting be. The continual discovery of self-exploration and self-lessness leads us to experience an intersubjective account with our environment. This is our being-in-the-world to allow creativity to be revealed. With this understanding in mind, the students in the Surface Design course attempt to follow their design journey through listening, exploring, reflecting and emotioning in a co-ontogenic natural drift process.

Because design is considered an evolutionary process of emergence, it is impossible to know how transformation and adaptation will occur or how

autopoiesis will influence a specific task, environment or pattern creation. We can only explain posteriori how influences happened to specific design tasks. If we wanted to be in control of the design process in a Cartesian paradigm, the result could not be new. Design remains a socio-cultural process comprising of variation, selection and re-stabalization (Jonas, 2002), but most importantly the process of design is self-referential and in constant flow, with the only proviso that we need to be in the moment, aware and open to possibilities.

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- David Michael Levin (1989) *The Listening Self*. Routledge: London. p.226
- Francisco J.Varela, (2009) *The Early Days of Autopoiesis in Bruce Clarke & Mark B. N. (Eds.) Emergence and Embodiment – New Essays on Second-Order Systems Theory*. Duke University Press. Durham.
- Francisco J. Varela, Evan Thompson, and Eleanor Rosch, (1997) *The Embodied Mind- Cognitive Science and Human Experience*. The MIT Press: Cambridge
- Heidegger called 'letting go and letting be' *Gelassenheit*, the bringing forth of the event.
- Humberto R. Maturana & Francisco J. Varela, (1998) *The Tree of Knowledge*. Shambhala:Boston. p.74
- '**Ontogeny** is the history of structural change in a unity without loss of organization in that unity. This ongoing structural change occurs in the unity from moment to moment, either as a change triggered by interactions coming from the environment in which it exists or as a result of its internal dynamics.'
- Humberto R. Maturana & Francisco J. Varela, (1998) *The Tree of Knowledge*. Shambhala:Boston. p.116
- Humberto R. Maturana & Francisco J. Varela, (1998) *The Tree of Knowledge*. Shambhala: Boston. p.180
- Max Van Manan, (1990) *Researching Lived Experience-Human Science for an Action Sensitive Pedagogy*. State University of New York Press: New York. p177
- Intentionality** – The term 'intentionality' indicates the inseparable connectedness of the human being in the world. Brentano, and later Husserl, argued that the fundamental structure of consciousness is intentional (Spiegelberg, 1982). And every conscious experience is bi-polar: there is an object that presents itself to a subject or ego. This means that all thinking (imagining, perceiving, remembering, etc.) is always thinking about something. The same is true for actions: grasping is

grasping for something, hearing is hearing something, pointing is pointing at something. All human activity is always *oriented* activity, directed by that which orients it. In this way we discover a person's landscape.

Merleau Ponty, (1962) *Phenomenology of Perception*. Routledge: London. p.203-204

Natalie Depraz, Francisco Varela and Pierre Vermersch, (2003) *On Becoming Aware*. John Benjamins Publishing Company: Amsterdam. p.25

Natalie Depraz et al, (2003) p.31

Richard Buchanan, (2009) *Wicked Problems in Design Thinking in Design Studies a Reader*. Ed. Hazel Clark & David Brody. Berg Publishers: Oxford. p.97

'Ten properties of *wicked problems* that (Horst) Rittel initially identified in 1972:

1. *Wicked problems* have no definitive formulation, but every formulation of a wicked problem corresponds to the formulation of a solution.
2. *Wicked problems* have no rules.
3. Solutions to *wicked problems* cannot be true or false, only good or bad.

4. In solving *wicked problems* there is no exhaustive list of admissible operations.

5. For every *wicked problem* there is always more than one possible explanation, with explanations depending on the *Weltanschauung* of the designer.

6. Every *wicked problem* is a symptom of another, 'higher level', problem.

7. No formulation and solution of a *wicked problem* has a definitive test.

8. Solving a *wicked problem* is a 'one shot' operation, with no room for trial and error.

9. Every *wicked problem* is unique.

10. The *wicked problem* solver has no right to be wrong- they are fully responsible for their actions.'

W.E.Doll, (2008) "Response to Proulx: 'Maturana Is Not a Constructivist'...Nor is Piaget", *Complicity*. Vol 5 No 1, p.27-31 Based on what Piaget describes as 'operatory logic'.

Wolfgang Jonas, (2002) *Researching through DESIGN through research – a cybernetic model of designing design foundations*. *Kybernetes*, 36(9/10), special issue on cybernetics and design.