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# GROUND<C>: A METAVERSE LEARNING STRATEGY FOR THE CREATIVE FIELDS

by

**Elif Ayiter**

A thesis submitted to the University of Plymouth

in partial fulfillment for the degree of

**DOCTOR OF PHILOSOPHY**

School of Art and Media

Faculty of Arts

**2012**

Elif Ayiter

**ground<c>: A Metaverse learning strategy for the creative fields**

In this thesis I cover the theoretical framework and the practice based implications of bringing the fundamental principles of a cybernetic art educational strategy, the Groundcourse, which was developed and taught during the 1960's in England by Roy Ascott, into the virtual, three dimensional builder's world of the metaverse; to be implemented there as a non-institutional, voluntary, self-directed, adult oriented learning system for avatars – one which is expected to be taught by avatar instructors who will formulate the specifics of their curriculum and their methods based upon the cardinal tenets of the Groundcourse, which have been summarized by Roy Ascott as a flexible structure, *"within which everything can find its place, and every individual his way,"* which would give dimension and substance to the will to create and to change.

In order to be able to set the groundwork for the adaptation of the Groundcourse's principles to my model I have conducted literature reviews in experiential learning theories, with an emphasis on self-directed learning; as well as cybernetic learning. These I have combined with a survey of play theory and virtual world studies, particularly those focusing upon the avatar and metaverse creativity. From all of these I have woven together a foundation which I have combined with a visual documentation which may serve as case studies for my proposal.

The new knowledge embodied through this thesis is a learning system for the creative fields that is designed specifically for the residents of online virtual worlds, and yet has its foundations in an earlier, well established and well regarded model.

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**Author's Declaration**

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Graduate Committee.

Relevant scientific seminars and conferences were regularly attended at which work was often presented; external institutions were visited for consultation purposes and several papers prepared for publication; and creative work was shown at international curated exhibitions:

Articles in Journals:

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Papers in Conference Proceedings (2008 – 2011):

Bisociative Ludos: The Wondrous Tales of Eupalinos Ugajin and Naxos Loon. Publication data: Ayiter, E., (2011). Bisociative Ludos: The Wondrous Tales of Eupalinos Ugajin and Naxos Loon, 12th Consciousness Reframed International Research Conference: "Presence in

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Syncretia: A Virtual Geography for Narrative Playfulness. Publication data: Ayiter, E., (2009) Syncretia: A Virtual Geography for Narrative Playfulness. ISEA 2009 Conference Proceedings, The 15th International Symposium on Electronic Art (ISEA 2009). ISBN: 978-1-905902-05-7

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# I. Introduction

The new knowledge embodied in this thesis is a learning system for the artistic fields that is designed specifically for the residents of online virtual worlds, and yet has its foundations in an earlier, well established and well regarded, real-life model.

The research resides upon an investigation as to whether three dimensional online virtual builder's worlds, that are known as the metaverse, can prove to be a suitable domain for the implementation of an adult-oriented art learning strategy based upon the 'Groundcourse,' an unorthodox educational strategy that resulted in a foundation level art course, developed and practiced during the 1960s by Roy Ascott in England (Ascott 1964).

The proposed model is based upon the premise that its students will engage in self-instigated learning that will largely be auto-directed. However, tutors and instructors who will aid students are also provided within the system.

Ascott's cybernetic learning theories proclaim a need for behavioral change in the artist in order for creative activity to be able to commence in the fullest sense of the word. To this end, during one of the critical assignments of the Groundcourse, Ascott asked his students to adopt a novel identity of their own creation. This alternative persona would then be self-observed while engaged in various tasks and assignments; also in collaboration with others, all of whom were operating under the same conditions. The underlying strategy behind the exercise was the notion that looking at the world through 'novel eyes,' unhindered by a backlog of lifelong prejudices and preconceptions related to a fixed and unchangeable 'self,'

would bring about perceptual changes in the budding artist. This research investigation proposes to enable the same creative challenge as the touchstone of a metaverse based art educational strategy – albeit with the avatar, rather than the human handler behind the keyboard, as the carrier of novel identity or indeed of multiple identities.

Research conducted in Cyberpsychology suggests very strongly that the avatar can be employed for such a purpose: The findings of Yee and Bailenson (2007) show that just as we choose our self-representations in virtual environments, our self representations shape our behaviors in turn. *"These changes happen not over hours or weeks, but within minutes"* (2007).

The research also foregrounds the 'experiential' attributes of art in relation to the proposed learning model: John Dewey points at cultures where aesthetic appreciation is inextricably bound with day to day usage, saying that *"we do not have to travel to the ends of the earth nor return many millennia to find peoples for whom everything that intensifies the sense of immediate living is an object of intense admiration."* The present task then *"is to restore continuity between the refined and intensified forms of experience that are works of art and the everyday events, doings, and sufferings that are universally recognized to constitute experience"* (Dewey 1934). Thus what Dewey proposes is an elevation of artwork from its current state of being the provider of mere *"transient pleasurable excitations"* into once again becoming the powerful carriers of experience. Could there be a more suitable place than a metaverse to bring about such an affective change – a world in which creative activity is at the very core of meaningful experiences, indeed existences?

To elaborate upon this change, throughout this thesis the thoughts of educators, cyberneticians, play theorists and cyberpsychologists will be brought together; and through this convergence it will be indicated that a major shift that may in fact be placing the avatar in the limelight could be in evidence: The first chapter of this thesis will discuss a transition

that Malcolm McCullough (1996: 221-235) notes, based upon Nelson Goodman's definitions of the autographic and allographic natures of visual and notational artworks respectively. McCullough says that in the digital realm a shift has occurred in this regard and that autographic (hand-crafted) artworks now share the same attributes of allographic (notational) artworks due to the computer's underlying symbol language which determines the structural nature of the output – be this visual, sound or text. To this Johan Huizinga's thoughts on how literature and the plastic arts differentiate themselves quite dramatically when it comes to 'play' (Huizinga 1938: 158–172) have been added. According to Huizinga 'play' is not nearly as apparent in (traditional) plastic arts as it is in literature and music, and this he says is due to the rigid nature of their materials, since these require a far more pre-planned approach and careful handling – mind states which inevitably preclude 'play.' Returning to McCullough, the autographic attributes of (traditional) plastic arts have now been transformed in allographic states in visual work that is brought about in a computer.

Ascott's exercise of identities carries correlations to the literary pseudonym, and extending the notion even further into 'multiple selves' could relate to Fernando Pessoa's heteronyms. Pseudonyms predominantly (although not exclusively) belonged into the realm of literature, which according to Goodman is a notational medium – and which according to Huizinga is eminently suited to 'play.' Could it be then, that we are at a moment in which an age-old creative game which has been played out in literature for centuries can translate itself into the visual arts through the avatar? And if so, can this define the purview of 'avatar art?'

The research takes into account Ascott's learning theories when viewed from a virtual perspective, implemented through these agencies which have recently become available to us in online virtual worlds. From interviews that were conducted with Ascott, together with those that were held with former students of the Groundcourse, it is apparent that what lay at the heart of the learning activity was a concern for dynamic relationships, explorations of 'identity,' concepts, systems, behavior and behavioral change: Evoking such change would

not only affect the creative output (object), but would be seen as the goal of the creative journey itself (subject).

Can such a learning strategy be successfully translated within a system that replaces physical bodies with virtual ones?

**‘Art’ and ‘Creativity’: A clarification of terminology**

These two terms are used in this thesis with the following meanings: While the Oxford Dictionary defines ‘art’ as ‘*the expression or application of human creative skill and imagination, typically in a visual form such as painting or sculpture, producing works to be appreciated primarily for their beauty or emotional power’*; ‘creativity’ is defined by the same resource as *‘the use of imagination or original ideas to create something; inventiveness.’* A slightly extended definition of creativity can also be found at the online dictionary (http://dictionary.reference.com) and this reads as *‘the ability to transcend traditional ideas, rules, patterns, relationships, or the like, and to create meaningful new ideas, forms, methods, interpretations, etc.’*

While describing his former student Brian Eno’s learning sojourn during the Groundcourse years Roy Ascott clarified the meanings of these two terms by saying that “*the outcome was not ‘an artist’ (although actually it is of course so in the best possible sense of the word), but a person who moves through the world creatively.”* (Ascott 2010).

It is therefore in the sense that it relates to the artistic fields; however extending beyond the creation of artifacts alone into artistic processes, behaviors and mindsets that the terms ‘creativity,’ ‘creative output,’ ‘creative process’ and the like appear to be better suited to the subject matter of this thesis.

## *Overview of chapters and topics*

The thesis consists of seven chapters, which include an introduction and a conclusion. The second chapter presents the motivation for embarking upon this research. These are based in a long-held question which asks whether computation may not have changed the thought matrices of our creativity through the transference of its building blocks from atoms to bits. This chapter continues by taking a look at artistic output of recent decades, which according to Arthur Danto is now in an epoch which he calls 'After the End of Art.' To Danto's observations a brief survey of what changes such a transitional state of affairs may have brought to post-modernist art education, as well as how Virtual Learning Environments may (or may not) contribute to art education have been added. The second chapter ends by situating the thesis proposal, which is the construction of a self-directed, adult oriented art learning environment based upon the ideologies of Ascott's Groundcourse in the contemporary metaverse.

While the third chapter takes a closer look at the Groundcourse, and its creator Roy Ascott's artistic output and influences; the fourth chapter delves into broader learning theories – specifically cybernetic and experiential learning, which are situated within a self-directed adult learning approach.

The fifth chapter then brings in the further components of the theoretical framework – the metaverse and 'play;' which are combined here since it was counterproductive to separate two topics that are thoroughly enmeshed.

The sixth chapter is an exposition of the research, demonstrated through three self-observational projects, which are presented as case studies for the learning environment, ground<c>.

The material from the fifth and sixth chapters extends as a visual documentation of this thesis into an appendix which will be presented as a collection of .pdf files placed inside a DVD. This assembly includes images and videos of creative activity; and also play sessions that provide substantiation of the emphasis for 'play' as an integral part of the proposed methodology.

The concluding chapter looks to the future by describing how ground<c> may materialize as a self-directed, self-observational learning system created for avatars, and taught by avatars, based upon the principles of Ascott's Groundcourse.

# II. A proposal for a novel strategy for art education

That the digital work environment has to be considered as centre stage in contemporary creative activity was already evident some fifty years ago when Ascott wrote that *"historically it has been a characteristic of the artist to reach out to the tools and materials that the technology of his time produces. If the cybernetic spirit constitutes the predominant attitude of the modern era, the computer is the supreme tool that its technology has produced."* (Ascott 2003: 129-130)

Equally important however is that Ascott also recognizes that the computer is much more than a physical tool; that it is in fact a creative medium, which may be capable of extraordinary mental transformations:

> *"Used in conjunction with synthetic materials, it [the computer] can be expected to open up paths of radical change and invention in art. For it is not simply a physical tool in the sense that an aluminum casting plant or $CO_2$ welding gear are tools—that is, extensions of physical power. It is a tool for the mind, an instrument for the magnification of thought, potentially an 'intelligence amplifier,' to use H. Ross Ashby's term. The interaction of man and computer in some creative endeavor, involving the heightening of imaginative thought, is to be expected."* (2003: 129-130)

Any physical tool can be thought of as a tool for the mind; as Daniel Dennett observes by quoting Richard Gregory, tools in and of themselves are intelligence amplifiers:

> *"Gregory observes that a pair of scissors, as a well-designed artifact, is not just a result of intelligence, but an endower of intelligence (external potential intelligence), in a very straightforward and intuitive sense: when you give someone a pair of scissors, you enhance their potential to arrive more safely and swiftly at Smart Moves"* (Dennett 1995: 377).

When it comes to the computer however, we are no longer talking about a tool, but rather that what is under scrutiny is a novel creative medium in which the very material that our minds are working upon has changed from atoms to bits; a transformation that has come into being through what can be described as a tool – very much in the sense that Roy Ascott described it.

While the validity of Ascott's proclamation can be evidenced in abundance through the accumulated output of computational creativity over the past 3 decades, this research predominantly addresses the underlying 'process' rather than the actual 'product.' The following thoughts are based upon self-observation: I am trained as a graphic designer. However, in addition to my professional activities in this field, I have also always made images for my own amusement – from long before I ever became immersed in the digital work environment. I therefore suggest that I am in a good position to compare the creative mindset of analog image-making with its digital counterpart. Once image processing software became available on personal computers I very quickly made a full transition to digital output since the mental processes which this environment provoked and evoked in me became far more intriguing than what I had experienced with analog work, which as a rule involves a linear progression, at least in terms of the transition from sketch to finalized output. Although I had tried to stretch these boundaries by means such as cutting up and re-assembling my own drawings and paintings long before I had ever encountered digital image processing, what became available to me in terms of multi-linear associative thought processes within the world of the 0s and 1s was infinitely more rewarding since it involved the ability to branch out, to make copies, to re-assemble these copies into ever evolving novel configurations, resulting in an endless journey which suddenly incorporated a 4$^{th}$ dimension since the journey could now also be traversed backwards, enabling a documentation of 'process.' This freedom is due to the intrinsic nature of the very building

blocks of computational output, the bits, which show marked differences from their physical counterparts, the atoms.

## *Bits and Atoms*

> *"The protean nature of the computer is such that it can act like a machine or like a language to be shaped and exploited. It is a medium that can dynamically simulate the details of any other medium, including media that cannot exist physically. It is not a tool, although it can act like many tools. It is the first metamedium, and as such it has degrees of freedom for representation and expression never before encountered and as yet barely investigated."* (Kay 1984)

Manipulating bits is essentially different from manipulating atoms and this difference between digital and physical media resides in their microstructures: Processes that move physical atoms around constitute the irreversible aspects of traditional work, whereby most operations are beyond recall. By contrast, the microstructure of the digital medium is comprised of bits which are specified arrangements of symbols. While the hardware of the computer is made out of atoms, its internal logic employs symbols that quantize the physical charges which they represent by obtaining stable bits. Because any physical deviations caused by atoms get rounded and corrected these symbols built on bits do not degrade, although new formats of hardware may make older file formats redundant and hard to re-capture. In the microstructure of the computational medium, arrangements and values can always be reconstructed, their previous states can be stored and recalled, additional instances and versions can be replicated, resulting in a continuously workable medium (McCullough 1996), in which a creative freedom such as the one which I wish to describe can be experienced.

Unlike their analog counterparts (the atoms) however, bits are not eternal. Although they can be manipulated endlessly while they are 'alive' they nonetheless have a finite lifespan. And, this bound existence may also contribute to the enchantment of working with them since we what we are dealing with is fleeting in its very nature, subject to ultimate loss, very much like life itself.

## A convergence of Autographic and Allographic artwork

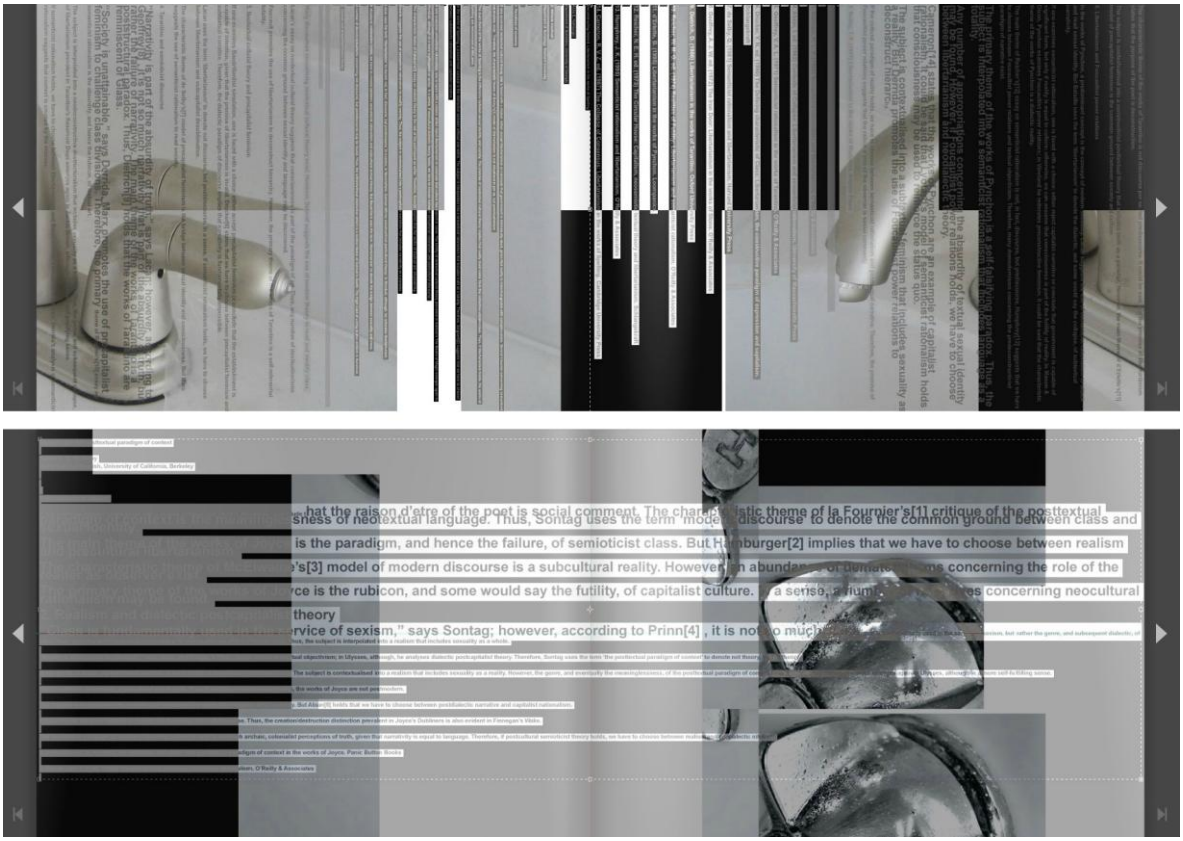

***Figure01: "The non-sense book." Elif Ayiter, 2011.*** [1]

The constitutive differences between analog and digital media also extend themselves to a question of 'language,' which in the case of computational environments are complex symbol systems that the bits carry: Formal notation is a special case of symbol usage and an understanding of it is a good way of getting a sense of the computer as a 'medium.' Notation, as formulated by Nelson Goodman (1976), is defined as a symbol system consisting of a scheme which is correlated with a field of reference made up of a distinct set of characters plus a syntax for combining them. While symbol schemes are the basis of alphabetical and musical notation, they cannot be applied to artifacts such as drawings and

*1Virtual Flipbook constructed out of generative text and bathroom fixture photographs. "The non-sense book" can be seen online at: http://issuu.com/elifayiter/docs/nonsense-book-1*

sketches since these are comprised of a dense field of overlapping, ambiguous, uniquely executed marks which cannot be defined as a symbol scheme.

A work of music exists in the abstract, and it may be performed, arranged, etc according to its notation in which two different performances of a musical score are clearly instances of the same work. In this sense the creation of the work and its performance are distinctly separate events. Visual output, however, shows entirely different characteristics since authorship and execution are united. Therefore even the most accurately duplicated copy is not the same as the original. Painting defies notation, since according to Goodman, we lack any real definition of what constitutes a work of painting.

Based upon this difference Goodman introduced terminology[2] to distinguish between what he calls 'autographic' (written by hand) works in which case there exists only one original and 'allographic' works where a symbol system (notation) carries the work and multiple instances of the original work are possible. The second category is more abstract and the route to such a state of abstraction is to incorporate formal notation. (McCullough 1996: 213–215)

Formal notation invites the study of structure, and one such structure is grammar. Structuralism has led to the building of symbolic expressions, such as Noam Chomsky's generative grammars[3] which emphasize the creative usage of language for developing new expressions. Chomsky distinguished between the surface and deep levels of structure found in languages and developed a notational system of rules for generating syntactic structures.

Computational theoreticians share this preoccupation concerning generative notations and grammars, since computing is essentially a form of structure manipulation; an abstract medium based upon generative symbol notation, particularly when it comes to data structures, and by extension data abstractions, the latter of which can represent high level

2 http://plato.stanford.edu/entries/goodman-aesthetics/
3 http://www.britannica.com/EBchecked/topic/228762/generative-grammar

concepts through symbol systems. Computing introduces formal notation into media where formerly there were none, thereby making autographic media allographic, in effect transforming 'things' into abstractions: In the digital workshop sculpture does in fact get built upon a system of notation since modeling software constructs formal representations of solid forms which are notations of geometrical hierarchies such as unions, intersections and subtractions of one shape from the other (1996: 213–215).

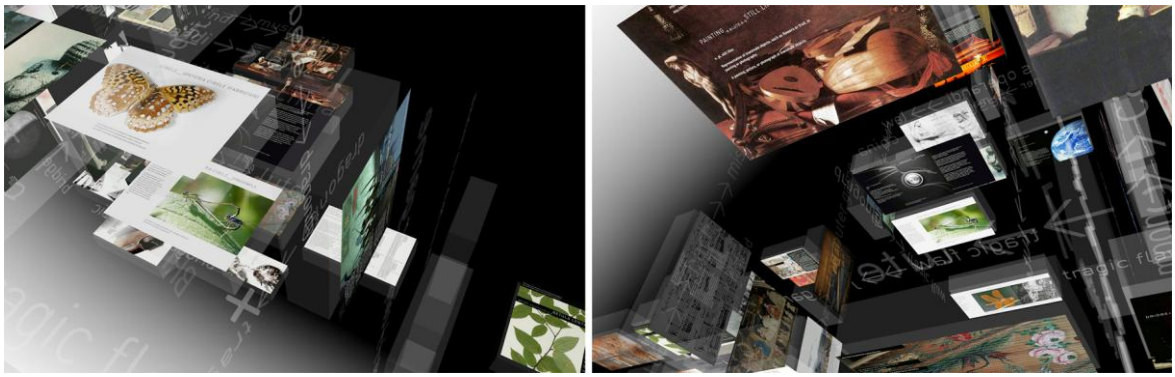

***Figure 02: "The Bridge Project."Elif Ayiter, 2006.*** [4]

Thus, the question that may be asked at this juncture is whether autographic artworks can benefit from the powerful means of abstraction provided by processed symbols? And conversely, may the work of symbolic processing be made more human by the ways of the eye and the hand?

Yet another novelty of the digitally creative medium, as noted by Michael Heim (1994), resides in eye to hand coordination: Both vision and computation are prone to abstraction, and an important goal is to get them to coincide. The eye, more than the hand, can see evolution in action, and recognize desirable states in the dynamic flux of forms. In traditional craft, the eye has the task of monitoring the effect of the hands, to guide the hands toward some abstract vision. The same process occurs in computing under different conditions since the eye is elsewhere than upon the hand itself. Therefore hand to eye

*4 "The Bridge Project" is 3D VRML environment which has been constructed out of associative material which has been harvested from the internet, through a search which was brought about through the usage of the online thesaurus. The project can be seen online at: http://citrinitas.com/papers/bridgeproject-site/index.html*

coordination changes in the sense that one might say that the hand need only steer, freeing up the eye solely to recognition. This acceleration, amplification, or transformation makes the role of the eye all important since it gives predominance to the eye as the monitor of abstraction. The reversible and proliferating nature of operating on structures of bits enable this emergent type of creative coordination between eye and hand to develop, allowing us to come upon configurations in which we may be able to see more than we can think of. We discover (McCullough 1996: 233–234).

**Improvisation and Generation**

One of these discoveries is serendipitous play/work states that are vastly enhanced by the nature of the medium: It is a distinct advantage of computation to introduce play; this is a natural consequence of working in bits, since bits enable us to bypass the irreversibility of the traditional processes rooted in the physical laws of material, in the atoms. You can only move atoms around so much before material starts to break down. But when rearranging bits, processes may be reversed completely without any loss of quality or affordance, unless the file is being compressed – as is the case with image formats such as JPEG. Furthermore, true copies are possible; indeed every copy is an original. Finally, the very structure of the medium contains variables, which invite modification along established parameters.

The master of play improvises: We could indeed say that improvisation is the a priori manner of inhabiting the digital creative medium; a world which is populated by evolving objects that give the ability to navigate a continuum of possibilities. One of the readily available means of such improvisation involves working upon an object along its design vectors through computational space by tweaking its parameters. The eye is engaged in appraising the changing condition of the artifact as the hand modifies its design variables in real time. One can however, also improvise at a higher level, by swapping entire structures,

or conversely by swapping structures of the same artifact, as well as by swapping different artifacts that have the same structure.

Beyond improvisation however, the syntactic structure of computing can serve as a recipe for growing entire formal systems by inventing generative structures, which incorporate patterns of growth as in the dynamics of natural (or indeed 'unnatural') systems. The nature of generative work is best explained by Brian Eno, during an interview he gave for Wired magazine in 2005:

> *"In the future, you won't buy artists' works, you'll buy software that makes original pieces of their works, or that recreates their way of looking at things. . . What people are going to be selling in the future is not pieces of music, but systems by which people can customize listening experiences for themselves. Change some of the parameters and see what you get. In that sense, musicians would be offering unfinished pieces of music – pieces of raw material, but highly evolved raw material, that has a strong flavor to it already. I can also feel something evolving on the cusp between music, game, and demonstrations – I imagine a musical experience equivalent to watching John Conway's computer game of Life or playing SimEarth, for example, in which you are at once thrilled by the patterns and the knowledge of how they are made and the metaphorical resonances of such as system. Such an experience falls in a nice new place—between art and science and playing. This is where I expect artists to be working more and more in the future."* (Eno 2005: interviewed by Wired magazine for issue 03)

It is of great relevance to this thesis that, although writing in as early as 1996 – at a time in which the metaverse had yet to come into full being, McCullough places builder's worlds within the genre of generative domains as well: "*These configurable worlds of generative action need not exactly mimic corresponding physical worlds. In particular, they may allow better crossovers between different media and representations and therefore allow for the practice of higher-level meta-techniques. This may mean that one can simultaneously inhabit and redesign a world* [akin to inhabiting a fantasy novel] *in which one can tweak the algorithms as they run."* (1996: 232).

**‘Thought Processing’**

> *“Software not only accelerates our thought process, but also facilitates the birth of a new reality in which we think. We should not mistake the new digital reality for a neutral territory untouched by human intention. Software hides within it specific notions about how we do and how we should think within a digital environment.”* (Heim 1994: 45)

The notion that a major change in the intellectual climate that would affect far more than output; in other words, that a major change in the creative mindset itself was apparent, was developed by Michael Heim between 1987 and 1994 when he coined the term ‘thought processing’ for writing with word processors.

According to Heim, writing is our primary means for putting our thoughts before us, for opening mental contents to critical analysis. Thus, in his chapter entitled ‘Thought Processing’ from his 1994 book ‘The Metaphysics of Virtual Reality’ Heim initially takes his readers through the history of writing, starting from its earliest examples when writing amounted to carving characters into rock or forming letters on parchment, all of which were materials that resisted inscription due to the very inflexibility of their physical structures. Consequently writers had to think through entire sequences of ideas before committing them to writing. From these earliest, cumbersome stages Heim takes us through a brief history of what he calls “knowledge processing” by pointing at the logician Peter Ramus (1515–1572), who according to Walter Ong (in Heim 1994: 48) provides a key to understanding the way that printing shaped modern culture by advancing a rational clarity in the modern Cartesian sense and by seeking to reorganize the age-old traditions of Western logic and rhetoric. As the tenet of this process Ramus advocated a system of knowledge outlines, in which all written content was ordered, arranged into hierarchies and sequences from the very onset of the authoring process itself. The vehicle he chose for disseminating his ideas however was the printing press that could reproduce pages on which graphic trees representing bodies of knowledge were displayed. Each page was a skeletal outline of a subject arranged

systematically, with the branches on the tree showing how the parts of the subject matter connected. The printed page thus becomes a chart of topics divided into dichotomies with their parts and interconnections made clearly visible.

According to Heim, Ramus's fondness for outlines continues to the present day. Teachers drill outlining in grammar at school. Lawyers and scientists use logical outlines and flowcharts. Business and industry convey complex ideas by means of outlines and charts – all operating under a dictum dating back to the days of Cartesian thought, which tells them that outlines present the inner logical structure of thought: Writing traditionally meant composing ideas in your head, the habit of mentally formulating an ideational sequence. Composition traditionally meant composing your mind or putting together your ideas. The mind learns to hold ideas in mental sequence; which fosters linear thought processes: We start at the beginning, and then proceed to create a middle, and finally conclude at an end:

> *"Ordered logic becomes a norm for the thought process; it even becomes synonymous with careful thinking. The trained mind experiences the thinking as a reasoning to presuppositions, premises, middle terms, and conclusions. With resistant materials, this mental feat is accomplished before the writing process begins."* (Heim 1994: 42)

Conversely word processing, according to Heim, makes thoughts flow directly. Again eye to hand coordination plays a very large part in this, since due to the instantaneous speed in which thoughts are translated to words that manifest on the screen, not only the mind but also the eye can now follow insights as they occur. The mind's eye and the physical eye work together. *"The eye is wired to the brain via the computer, making a feedback loop between the mind and the written word."* (1994: 43) Thus, Heim tells us that word processing (as is commonly held) is not just a quantitative improvement in getting a job done more efficiently, but rather evokes entirely new thought processes and involves work procedures which depart quite radically from their pre-electronic predecessors when it comes to generating text.

Thoughts appear on the screen nearly as fast as they come to mind. These thoughts may initially be unordered; however unlike their counterparts that are penned (or indeed also written with a mechanical typewriter) this is of no consequence since in the electronic medium sequence can be imposed afterward. We not only see what we have mentally enunciated, but also feel free to rearrange, reorganize, and change what we thought or said we thought. Serious penalties like retyping or cutting and pasting no longer plague the computer user. *"If good thinking means self-editing and self-criticism, then the computer speeds up the thought process while preserving the discipline of objectifying ideas."* (Heim 1994: 43)

**'Computer as Theater'**

The key to working with computers, regardless of whether we embark upon improvisational or generative procedures through their affordances, is an understanding of them as a medium, in which there exists a perpetual mediation between action and notation. This means that while work takes place in an abstract métier, it can also actively reshape this very medium within which the user is operating. If one word springs to mind, this could be 'participation,' or in other words, psychological identification between the medium and the user. Such deep levels of psychological engagement depend upon building convincing mental models, which are possibly the most essential requirement for the computer to be perceived as a medium. Brenda Laurel has observed that this process is similar to what we experience when attending a good play: *"Engagement is similar in many ways to the theatrical notion of the 'willing suspension of disbelief,' a concept introduced by early nineteenth century critic and poet Samuel Coleridge. It is the state of mind that we must attain in order to enjoy a representation of an action."* (Laurel 1991)

Thus we suspend our awareness that we are working with a computer, and we enter the mental model, as though our monitor were a proscenium, or better yet as if we were onstage ourselves. Added should also be that this state of participation through a suspension of disbelief – of being onstage, also explains much of the enthusiasm for interfaces such as three dimensional virtual worlds which we populate through our avatar 'actors,' that construct the perception that we ourselves are within our own work.

**"A tool for the mind"**

The preoccupation of this research with bits resides in whether the playfully regenerative medium which they bring about cannot be conceived of as a means for enhancing the creative state itself, very much in the sense that Ascott meant it when he anticipated the computer to be a *"tool for the mind, an instrument for the magnification of thought, potentially an 'intelligence amplifier"* (1966). That the digital medium is singularly contributive to evoking play through experimentation and improvisation has already been discussed. However, yet another aspect in which creative thinking may be amplified is the elicitation of a bisociative mode of thinking which according to Arthur Koestler (1964) is the very thought pattern that brings about the creative act and involves a blending of elements drawn from of two previously unrelated matrices of thought into a new matrix. Bisociation is also akin to free association, or thought-stream, which according to David Gelertner (1994) is an integral component for bringing forth creative insight.

Observing my own image making endeavors I am compelled to draw upon great similarities between the relationships of jokes and dreams to image-making. Freud's insights into the usage and manipulation of words and language as material to the joke-work give me a startlingly accurate description of the convoluted processes that my mind employs when creating images.

Bewilderment and illumination, although used by Freud to describe the mental state of the recipient of a joke; when seen from a point of view that confronts the artist with his inner self is an extremely accurate description of the image-work. This state is realized by the coupling of distant ideas and concepts, meaning that the more alien the two circles of ideas, the greater the pleasure the joke delivers. Furthermore, the joke must unearth something hidden and concealed, and to this end can incorporate unifications, represent its subject through opposites and substitutions, modifications, double entendres, allusions, omissions, ambiguous and repetitive usage of its material. (Freud 1938).

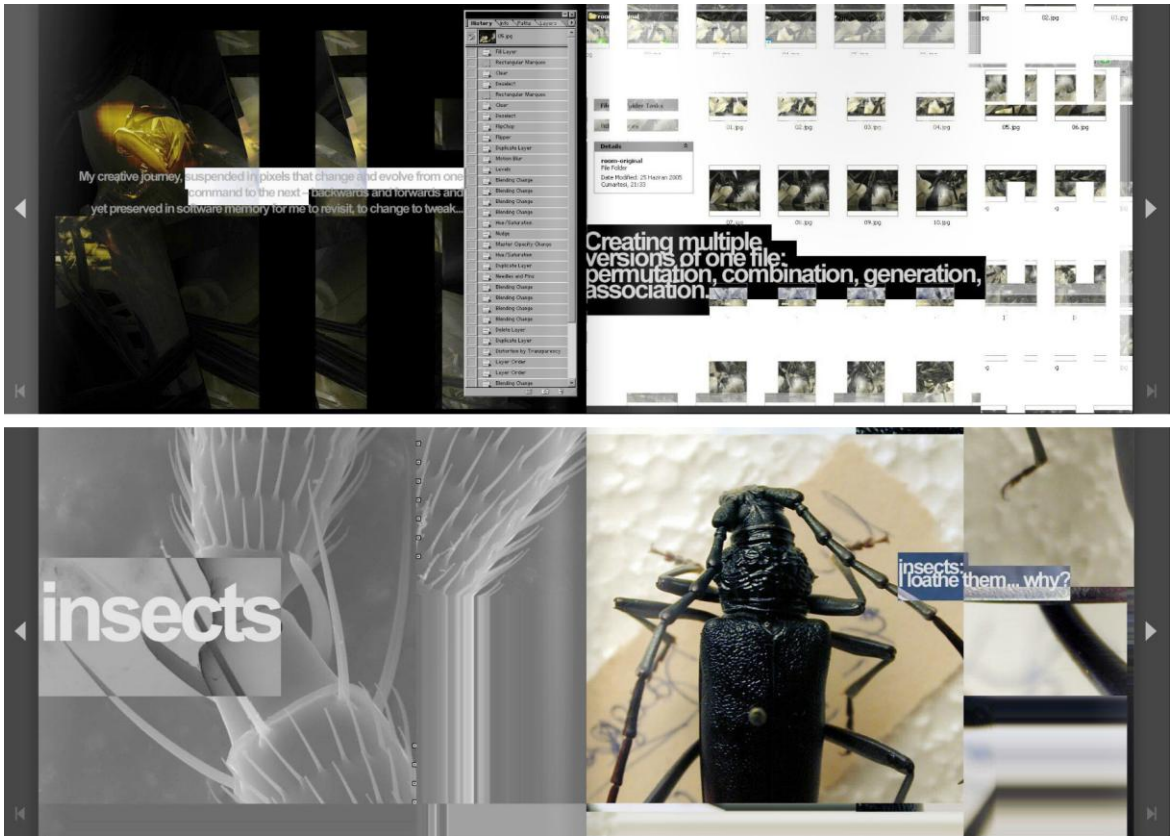


***Figure 03: "ctrl+x, y, z, v" Elif Ayiter, 2006.*** [5]

The computer allows us to time travel backwards in our work through history palettes which are increasingly embedded into software, as well as through the ability to save interim stages of work as new, stand-alone documents. I have used these techniques to document my own progression, as a self-observational device. My conclusion is that the digital medium brings

*5 Conference presentation screenshots re-assembled into a virtual flipbook. "Ctrl+x, y, z, v" can be seen online at: http://issuu.com/elifayiter/docs/ctrl_xyv*

forth mental processes which are freely associative, which I would indeed like to define as bisociative; and which I translate into a range of output, from virtual clothing to images to video files. While in most cases these connections occur through combining my own images/text/shapes/sounds into ever novel configurations, in other instances internet material gives me altogether new ideas, sometimes combined with material of my own, at other times worked into ready-made assemblages. And not only have I witnessed it in myself, but observing many art and design students over the course of the years is also leading me to the conclusion that what I experience whilst embroiled in digital creativity is wide-spread.

What is at work here concerns only a question of degree, rather than of kind: The description above is not new, the surrealist artists of the early 20th century employed techniques that utilized precisely the same procedures, albeit through analog media. However, 'degree' is decisive within such a context: The freedom that an environment of bits gives us brings forth unprecedented daring. This is particularly the case when it comes to manipulating our own output. We can afford to become cavalier in our search when we can rest in the assurance that what we started out with is always there for us to go back to. The entire notion of preciosity surrounding our work disperses as we come to realize that we are no longer working with 'things,' which we may lose as we try to change and evolve them but rather with 'abstractions,' which although seemingly manifesting as tangible 'things' nonetheless preserve their protean nature.

Even though I used to be bold enough to tear up my own images and re-work them long before I became acquainted with computers, I can still say that I have become infinitely, incomparably more experimental. If anything I will dare to suggest that, when it comes to creative behavior, the digital 'me' is an entirely different creature from the pre-digital 'me.' And in this sense I can vouch for the 'difference in degree' being an integral part of what is at work: I make connections and associations which I do not think that I could have dreamed of, much less dared to execute, before I encountered the computer. And as importantly, since

the opportunities which are evidenced through my digital mind state are so unexpected and bewildering, I also manage to bypass the bane of 'habit' and of pre-conceptions to an extent that I would not have thought possible before. Simply put, I hardly ever do the same thing, using the same combinations and materials, in the same way twice.

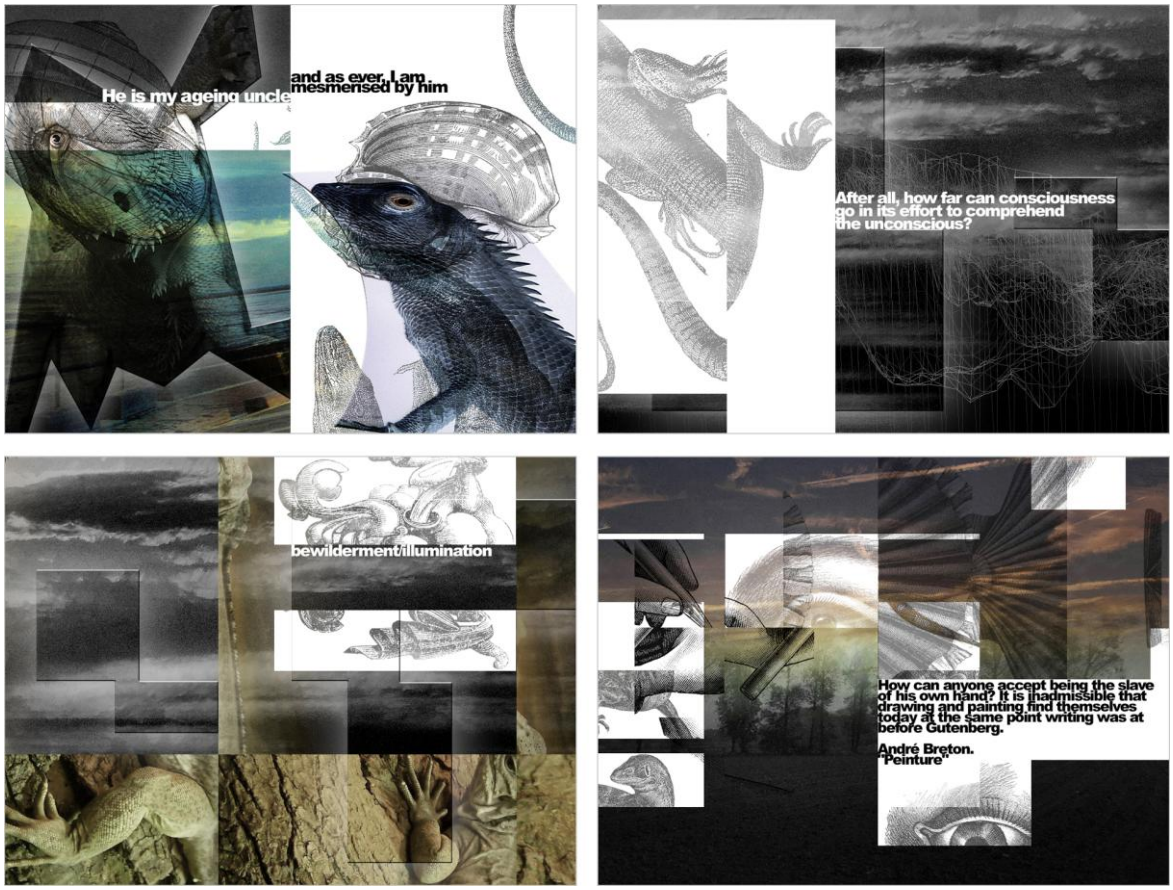


***Figure 04: "entre loup et chien." Elif Ayiter, 2005.*** [6]

The computer has changed the way in which I work; and as a consequence my entire being, my self-perception as well as my perception of the world around me at a level that I would not even have been able to contemplate before my encounter with it. I am not alone in this; such a fundamental change applies to a greater or lesser extent to all individuals who are enmeshed in computational creativity; and therefore educational provision which caters to such a change in mindset due to the change in building blocks from atoms to bits should be widely deliberated upon.

*6 4 of a series of images with which I attempted to visualize the effects of unconscious associations on image creation.*

## *Art and Entropy*

What is especially noteworthy is that this digital revolution has occurred during a time in which art-making, be it digital or analog, can be seen to be at a major crossroads of its sojourn. That this is part of a long-standing historic process which is also closely linked to the parallel journey of philosophy can be evidenced from almost 200 years ago when, as Arthur Danto notes that, Hegel already had concerns in this regard when he wrote in 1828 that *"art, considered in its highest vocation, is and remains for us a thing of the past. Thereby it has lost for us genuine truth and life, and has rather been transferred into our ideas instead of maintaining its earlier necessity in reality and occupying its higher place,"* a query which is subsequently picked up by Heidegger during the first half of the 20th century: *"the question, however, remains: is art still an essential and necessary way in which truth that is decisive for our historical existence happens, or is art no longer of this character?"* (Danto: 1999).

In his book 'After the End of Art' (1996) Danto sets out by writing about a certain narrative that he thinks has been objectively realized in the history of art, and that this narrative has come to an end. It is not his view that there will be no more art (which 'death' implies), but that whatever art there is to come be will be made without benefit of a reassuring narrative in which it is seen as the appropriate next stage in the story. What has come to an end is the narrative but not the subject of the narrative," that *"in a certain sense, life really begins when the story comes to an end, as in the story every couple relishes of how they found one another and 'lived happily ever after.'"* (Danto 1996).

Danto gives us a vivid sense that some momentous historical shift has recently taken place in the productive conditions of the visual arts, even if outwardly speaking, the institutional complexes of the art world – the galleries, the art schools, the periodicals, the museums, the critical establishment, the curatorial – still seem relatively stable. Taking his trajectory from

Hans Belting's idea that the concept of art did not come into being in Western culture until around 1400 AD, Danto divides art history into distinct epochs: An epoch of pre-art that is followed by a period which Danto divides into a mimetic period and an ideological period. This latter he defines as the modernist period of manifestoes during which numerous philosophical definitions of what might constitute the true work of art were undertaken, much at the expense of one another. What seems to have happened in the last quarter of the 20th century however, is a departure from this ideologically invested era into a novel epoch in which *"something else the exact shape and structure of which remains to be understood"* is now emerging, and in which all ideologically based definitions of what might be art and what might be non-art have given way to a milieu of freedom. Danto borrows from Paul Feyerabend[7] when he says that nowadays *"anything goes,"* that this is the signifier of an era which has materialized 'after the end of art.' What comes after the end of art is a time in which the concept of art itself has been transferred to the domain of philosophy, opening up a vista of unprecedented plurality as far as the creative act itself is concerned, since this activity is now finally freed from the constrictions of the history/narrative of art itself.

Far from being pessimistic, Danto joyously embraces this new state of affairs, and in this sense his thesis provides a welcome if also challenging background whilst deliberating upon novel art educational strategies that take into account such conditions, since these bring about profusion not only in terms of the art works themselves but also in what the definition of an artist might be.

Danto points at the significance of the staggeringly high numbers of individuals who, if ever increasing art college application figures are anything to go by, wish to pursue lifestyles or careers which involve the creative fields. According to Danto this is yet another indicator of the plurality which the 'end of art' has manifested, not only in terms of the actual artistic output itself but also in terms of an understanding of what an artist is or may come to be. It is

7 http://www.galilean-library.org/site/index.php/page/index.html/_/essays/philosophyofscience/anything-goes-feyerabend-and-method-r76

therefore of no surprise that in several passages of his book Danto refers to Marx's definition of a post-historical society in which nobody has one exclusive sphere of activity but each can become accomplished in any branch he wishes. *"Society regulates the general production and thus makes it possible for me to do one thing today and another tomorrow, to hunt in the morning, fish in the afternoon, rear cattle in the evening, criticize after dinner, just as I have a mind, without ever becoming hunter, fisherman, shepherd or critic"*[8].

Whilst proposing a novel strategy for art education, Danto's observations on demographics, are useful to this research in that such high numbers inevitably herald novel user groups of art learning environments, who may not be satisfied with the current agenda of solely training professional artists and designers, and where the overriding concern may be a dissemination of technique and skill rather than endowing learners with mindsets that will enable creative activity as a life-style that goes considerably beyond fulfilling the demands of a profession or a career.

This leads to the notion that one of the most desirable shifts that could be expected to come about due to such proliferation and plurality might involve a displacement in the creative fields from 'object' to 'subject,' that artistic activity in which the creative process itself may take precedence over the final output will be foregrounded, indeed that in certain instances there may even be no output other than a self-observational documentation of the journey itself. Such a shift predicates a novel group of users of art environments, not the least of which are art educational domains.

## *The Post-Modernist Discourse of Art Education*

Just as every period in history brings forth its own constraints when formulating educational strategies, the time span in which we find ourselves is a particularly intriguing one,

*8 Marx, K. (1845). The German Ideology, http://www.marxists.org/archive/marx/works/1845/german-ideology/ch01a.htm Retrieved on 08-07-2011*

especially where art education at all levels from grade school to higher education is concerned. If we are indeed at a juncture in which according to Arthur Danto *"anything goes"* (1996) in the art world, how do we develop strategy accordingly? And as importantly, how is coherent learning strategy to be developed under this adage, in view of the circumstance that on an institutional level accountability and the measuring of learning outcomes are still as much upon us today as they were during the last quarter of the 20th century?

This research bases itself in Further Education (FE) since the goal is not to bring about a learning environment that is suited to the needs of Higher Education (HE) in art and design in which the above mentioned constraints prevail. Instead what is proposed is a self-directed learning environment to which Further Education (FE), a level in which as an Arts Foundation Course the Groundcourse was also situated, is very well suited since this level covers adult learning strategies that stand at the core of this model. It will therefore be appropriate to delve into current Higher Education practices in art and design at the university level today, in order to clarify the reasoning for choosing a Further Education strategy for this project.

When it comes to art and design education at the Higher Education level, this is increasingly being brought under the jurisdiction of universities in which research is a criterion that is applied to the output of art instructors alongside creative activity. While many academician artists seem to have made this transition with remarkable results by bringing in fresh perspectives to a rapidly evolving transdisciplinary theoretical discourse; sadly, many more seem to have ended up in an in-between state in which the expected outcome seldom ends up going beyond an uneasy hybrid between creative output and research; oftentimes emerging neither quite as one or the other.

A lengthy passage from Julian Stallabrass in which he summarizes Howard Singerman's observations which are the subject of Singerman's book 'Art Subjects: Making Artists in the American University,' describes some of the effects of this transition, saying that Universities work to separate professional artists from Sunday painters, and do not expect of art students that they be manually skilled, take recreational pleasure in their work, or wrench it from their tortured souls. Rather, they must produce a distinct and certifiable knowledge, in a theoretical and esoteric language, guaranteeing the exclusivity and status of the art profession:

> *The art of the academy which Singerman compellingly describes usually requires the presence of the artist at least for exposition, appeals to academic audiences, and is built on grants, fellowships, and residencies. It, too, achieves autonomy from the general run of mass culture, at the price of adapting to another set of institutional concerns, those of the increasingly audited and professionally administered university. Its main purpose is to generate dialogue among professionals, but the effects are far broader than that, influencing much of the discourse around art.*
>
> *The first effect is that for there to be an art department there must be a unified and bounded thing, called 'art.' The second is that it can be researched, and that much of what artists do can be described as research. The third, that the field requires description in a specialized language, the acquisition of which defines art professionals..."* (Stallabrass 2004: 81)

Continuing with a brief survey of some of the more obvious properties of post-modernist art education, it is of note that Danto's proclamations regarding the ending of the big narrative in art also find resonance in Arthur Efland's writings: In the face of the changes that the post-modernist mindset has brought to pass Efland suggests that while formulating learning material it may be wise to abandon the *"grand narrative,"* with its emphasis on unified conceptions of art, science and philosophy in favor of the *"little narrative"* extracted from personal insight and local experience (Efland 1996).

The way in which such narratives may emerge will also need to take into account the many socio-political currents with which the present Zeitgeist is stamped and in which *"issues of race, class, gender, sexual orientation, and multiculturalism are being discussed as essential to post-modern art educational discourse"* (Neperud: 1995). One way in which these issues

shape art education is a pronounced wish to integrate/merge the research material and output of an academic field that investigates aspects of culture, relying on visual images through anthropological research methods – namely Visual Culture/Visual Studies, into the art curriculum. This may effectively turn the art classroom into a laboratory where visually cultural artifacts are examined and their meanings discussed, and where they are sometimes appropriated as the material of art projects. A further development that can be seen as an extension of the integration of Visual Studies into the art curriculum is the bringing in of political standpoints and art-activism into the classroom as one of the mainstays of art education – to the extent where Michelle Marder Kamhi has defined these as the 'Hijacking of Art Education.'[9]

Unlike Marder Kamhi who sees in these mergers grounds for considerable concern; Kim Barker advocates the integration of Visual Studies/Culture into the art educational curriculum as a means to increase the relevancy of art instruction to students, continuing that *"the inclusion of (popular) visual culture in the art classroom also serves as a means to facilitate the development of higher order thinking skills that can assist students in their ability to navigate the seemingly infinite clusters of signs aimed at shaping them (inside and) outside the art classroom"* (Barker 2010).

Art educational theorist Paul Duncum also recognizes that many art educators are increasingly using the term visual culture, rather than art, to describe their central concern, and asks what visual culture might mean in the context of art education, and how pedagogy might be developed for visual culture. Duncum points at attempts by both art educators to redefine their field and others outside art education who are attempting to define visual culture as an emerging trans-disciplinary field in its own right (Duncum 2002: 14–23).

One of the creeds of post-modernism is that multiple and even conflicting value positions can be taken about a myriad of issues, only one of which is art. Art works are reliant upon

9 http://www.aristos.org/aris-10/hijacking.htm

the social interactions that revolve around them and indeed their very definition as art work depends upon their social context. They may be perceived to be important through deconstruction, particularly from the standpoint of motive or agenda, or a reconstruction / interpretation by their advocates' position, in which case the reconstruction of the same material can be expected to be different from its initial state. *"Post-Modernism thrives upon these differences. Bricolage and eclecticism are common post-modern traits. Ambiguities and surprises are sought, together with multiple references. The audience may be confronted with paradoxes arising from unlikely choices of material, or from allusions to discrepant periods in art history, or from cultural contradictions"* (MacGregor 1992). This means consideration of alternative points of view for which artwork will provide material for discussion and sharing, but not for any resolution in absolute terms. Subject matter will pay less attention to distinctions between high art and popular art, but rather examine all visual output as an arena where questions of meaning are generated and discussed (Efland 1996), which is indeed much akin to how work is undertaken in the field of Visual Culture.

A characterization of post-modernist art education, as well as an alternative strategy for its implementation has been proposed by Olivia Gude, who advocates a departure from the famed 7 + 7 visual principles of modernist art and design in favor of eight conceptual principles which she lists as appropriation, juxtaposition, recontextualization, layering, interaction of text and image, hybridity, gazing, and representin,' the last being a deliberate abbreviation that Gude borrowed from urban street slang and by which she describes a process of creative self-representation (Gude 2004: 6–13).

In tandem with the post-modernist influx that has been progressively shaping art practice as well as art education over the past decades digital environments acquire an especially important role. Their import stretches itself from the studio/classroom itself to well beyond – to domains such as computer aided learning systems, to the usage of the internet as a self-learning/search device, to online sharing communities such as DeviantArt, in which an

alternative/informal review and appended learning system spreads itself through comments and page viewings (Akdag-Salah 2010). Indeed it could be argued that over the past two decades learning digitally has become omnipresent to the extent that we no longer even consciously perceive our knowledge acquisitions through such means as discrete learning activities.

Although, learning can be accomplished in myriad ways in digital environments, a systematic digest of Virtual Learning Environments, which are dedicated educational domains that are almost exclusively used for institutionalized e-learning, is particularly relevant, since these carry umbrella concepts that have been structured under scientific and pedagogical deliberations and as such are likely to provide good input for this research.

### *Virtual Learning Environments*

Virtual Learning Environments (VLEs) are integrated online learning environment shells (McPherson and Nunes 2001), based upon the broader concept of information systems. Information systems must enable user participation and validation as well as management procedures to control the deployment of their resources and communication between all the agents involved.

A major challenge is that in order to operate efficiently VLE's are often tailored to suit particular learning tasks. This may inevitably bring forth a reductionist approach, whereas learning is a complex process involving a large range of activities, some active, some passive, some creative, some reactive, some directed, some exploratory, in which the goal is constructing a perspective or understanding. However, no such meaningful construction is possible if all relevant information is pre-specified (Bednar et al. 1992), as very often seems to be the case in VLE's today. Yet another goal of learning is attaining a collective, constructive social process (Zucchermaglio 1993). By this definition the learner must be surrounded by a rich environment that supports the communication and negotiation

processes between members of a social community. Furthermore, learning should be seen as a process of construction of knowledge and the development of reflexive awareness, where the individual is an active processor of information. This complexity of the learning process suggests the need for situated learning and multiple perspectives on the different aspects of the subject matter, the implication being that a number of different learning strategies must be adopted to assist the learner in the construction of knowledge.

Malins and Pirie (2004) note the specific challenges that face the designer of VLEs for art and design education, noting that three generations of VLE's, from passive transmission to active collaboration and latterly to reflective development can currently be identified. This transition may forecast a future for art education within what Grabinger and Dunlap (1995) define as rich virtual environments for active learning (REALs).

The Situated Learning approach, which many REALs take into consideration as an instructional framework; comes from the work of Lave and Wenger (1991). The premise behind situated learning is that people learn best through 'legitimate peripheral participation;' that is, partaking in activities where the awareness of the learning process that one is embroiled in may at times recede from the centre of attention without ever being completely lost. Many formal and informal apprenticeships fall into this category. *"Learning is thus situated within a culture and context and cannot be separated out from this as formal education tries to do. Learning is also incidental, rather than deliberate. This is a theory that has radical implications for the way in which education is conducted. It emphasizes the informal nature of learning, and also the extended timeframe over which education occurs. It is, however, rather difficult to implement within existing educational frameworks. How do you make learning incidental, and if you do create such an environment, how can you be sure that learning will take plac*e?" (Weller 2002).

In order for such peripheral learning to successfully occur within a digital medium more than the standardized two dimensional web interface which we are accustomed to may be needed: Hill et. al. (2002) discuss the importance of knowing that there is a 'there' there – meaning that it is important for learners and instructors to have a sense that others are a part of the interactions and that although the space is virtual, that it does provide a sense of physical 'presence.' Moller (1998) also emphasizes this role of presence in his work on asynchronous web-based environments. According to Moller, social presence is the degree to which an individual feels or is seen as real by colleagues working within an online context. These findings are also substantiated by Jelfs and Whitelock (2000) who also found that such a sense of presence, of being 'there,' was vital in virtual learning environments. While two dimensionally based socially interactive media can and do give a sense of presence also, the advantages of a three dimensional world in which a learner can become bodily immersed through a virtual extension of the physical body that will hugely enhance a sense of 'presence' as well as of 'legitimate peripheral participation' should be obvious. Such worlds are of course already in existence and are actively being used for learning purposes at all levels today, as the following section will exemplify further.

**Learning in the Metaverse**

While Second Life is used as a learning platform by hundreds of educational institutions worldwide; the general lack of concern over whether the unique properties of this thoroughly novel human condition can be exploited to develop learning strategies that are unique for the medium is noteworthy. A study conducted by Jennings in 2008 suggests that educational institutions in Second Life prefer to emulate real life teaching practices as well as confine teaching activity to a dedicated campus, which in many cases is a near exact replica of the real life campus architecture whereby metaverse learning activity is considered as a mere extension of education in the physical world. Indeed, in a considerable number of cases

teaching is undertaken by faculty whose presence in the metaverse is limited to this activity alone (Jennings 2008).

However, the problem does not reside in how the learning process is approached within the boundaries of the virtual campus alone. While web 2.0 domains have provided unprecedented user interaction and participation online, the metaverse has taken further steps in creating an awareness that takes participating agents to an entirely new level, providing not only social interaction and participation but also 'presence.' This notion of bodily presence provided through the three dimensionally embodied avatar, who is a highly responsive and influential virtual extension/counterpart of the human behind the keyboard, creates far deeper reaching implications than a mere novel display system or tool can indicate. New forms of embodiment, of presentation as well as perception are being materialized, as has also been previously the case in online games and simulations. It is surprising that very little usage seems to be made of these novel affordances by most of the current educational approaches:

> *"What is it that we can do in a 3D virtual world that we cannot do out of it? I can attend a formalized teaching session but if all the time I want to build a castle or fly to the other side of the island I will not be too concerned with the contents of the lecture. However if the learning tasks we construct involve building and flying then the learning itself is embedded in the platform's unique attributes. This is the current challenge and our biggest questions surround how we might evolve these learning activities. Very few educationalists are currently involved in this. We need a way of assessing our impact in Second Life without influencing the process by the observation itself whilst yet allowing our assessments to be both valid and reliable. So many factors influence knowledge exchange and the learning of new skills when we start using immersive technologies to teach."* (Kirriemuir 2007)

While it may be premature to relinquish present day educational methodologies in their entirety, nonetheless a provision for change, and on a noteworthy scale at that, should be expected to be incorporated into metaverse educational strategies.

When it comes to art education, it appears to be fairly evident from present day creative activity undertaken by the residents of a metaverse such as Second Life that this change will

not only involve the attributes of the artistic output itself but will also need to take into account the changes in behavior, in usage, in utility and function on behalf of the creator/users of these artifacts; as well as the locus of the usage itself. Furthermore, an entirely novel student profile, comprised of mature player/learners, who wish to further their creative abilities for enhanced participation in the ongoing metanomic[10] game, may also manifest themselves within a foreseeable future; and again it would seem that provision for their specialized learning needs would need to be considered.

## *ground<c>: A metaverse learning strategy for the creative fields*

This research proposes an online environment that elicits creativity through self-directed learning in a metaverse, and is grounded in the observation that the digital medium has given us affordances that shape our very thought patterns whilst engaged in creative pursuits, and that these changes are critical for effective art learning in 21st century education.

The proposed model is built on the constituent principles of a leaning strategy practiced in England at Ealing Art College in London from 1961 to 1964 and at Ipswich Civic College in Suffolk from 1964 to 1967, called the Groundcourse, that will be adapted to and re-interpreted for the metaverse, with a particular focus upon its three dimensionally personified inhabitants – the avatars.

The learning context of this environment is creative activity through exploratory play, revolving primarily – but not exclusively – around the concept of the 'self' which is made visually tangible through the avatar, that will bring about states of self-observation which evoke changes in self-perception, heightened understandings of the dynamic relationships between the many facets of the 'self' that may materialize as 'alt avatars;[11]' as well as the relationship between this multiplied and diversified 'playful self' and other humans – all of

*10 Metanomics is a term that has been coined to define the define economic activities of virtual worlds, particularly the metaverse: http://www.wordnik.com/words/metanomics*
*11 Supplementary accounts for a virtual world which a single human being creates in order to bring about multiple existences/personas in the world through multiple avatars, all operating with different names and unique profiles.*

which prospective learners are expected to develop into concepts, subjects and objects that become the building blocks of their self-directed creative learning strategy. The aim is to shift the attention in art-making from ‘object’ to ‘subject,’ and from ‘output’ to ‘process,’ achieved through the observation and the documentation of the creative journey that transpires through the effectiveness of the avatar as a creative entity.

Current art education is increasingly entrenched in the credo of post-modernist thinking: While the assimilation of Visual Culture/Studies material as the primary subject matter of art education is not appropriate for this project; other concerns of the post-modernist art educational curriculum do find resonance within this research as well. A time in which the unified ‘grand narrative’ of Western art seems to have given way to a myriad of unaffiliated ‘little narratives’ may be an appropriate one for proposing a model that is based upon self-observation and an examination of identity through avatars for creative purposes: Identity is one of the key learning elements which were set out in Roy Ascott’s Cybernetic Art Matrix, and were also explored as part of the Groundcourse’s curriculum itself. Beyond this connection, identity is also one of Olivia Gude’s eight postmodernist principles of art education (Gude 2004). Aside from this all important one, Gude’s other seven principles (appropriation, juxtaposition, recontextualization, layering, interaction of text and image, hybridity, and gazing) should also find their place within a contemporary art educational strategy; particularly so since almost all of them dovetail with the workings of the computer as a creative medium, as was mentioned previously in this chapter.

ground<c> may serve equally as a self-directed learning system for individuals or as the schema of collaborative group learning projects in the creative fields. In both cases the system should be able to function with only moderate input from instructors or mentors; however should be flexible enough to accommodate the extension of such roles if such a need or wish arises. Just like the Cybernetic Art Matrix, ground<c> is planned for Ascott’s

three user groups – full time artists, students and leisured individuals engaged in creative work.

Reflecting upon Howard Singerman's observations on the status of higher education (HE) level art educational institutions today, an open-ended learning strategy such as the one proposed here would not be too likely to find ready acceptance in such learning environments, bound by their mandated rules of accountability and expected learning outcomes. Instead, the model is placed at the Further Education (FE) level, in non-institutional, self-directed adult learning, where it can be pursued by individuals and groups of individuals as a part of the ever ascendant internet based milieu of creative sharing and learning.

It should also be clarified that this thesis does not purport to delve into the specifics of what the setting up of such a learning program would ordinarily demand. The non-inclusion of fixed details such as descriptions of curriculum, syllabuses and the like is that ground<c> is to be envisioned as an adaptive system that will acquire its ever-changing/growing content through the input of its future participants, very much along the lines of Ascott's description of the Cybernetic Art Matrix as a system that is *"provisional and general, rather than absolute and specific"* (Ascott 1966) and in which interactions happen "*spontaneously and biologically;"* that will initiate new lines of thought and experiment, becoming the catalysts for action and change. However, a description of what the structure of such a system may be; what instructional tools can be utilized and/or devised and how learning content can be transmitted, is given in the final chapter of this thesis – as a summation that describes how such a model can be set up in the metaverse, with avatar learners and instructors.

McPherson and Nunes (2004: 54–60) propose that the design of all online learning environments should be based upon sound pedagogical models that have been previously implemented under face-to-face physical conditions, and that are appropriate to a specific

educational scenario. For ground<c>, this pedagogical model is the Groundcourse (Ascott 2003: 97-108). Thus, the following chapter will undertake an examination of this pivotal component of the thesis – its precedent.

# III. The Groundcourse

The Groundcourse was a two year long, cutting-edge foundation art course that was taught at Ealing Art College in London from 1961 to 1964 and at Ipswich Civic College in Suffolk from 1964 to 1967. Its radically innovative strategies never became wide-spread, did not extend themselves into prevalent art teaching methodologies either in England or elsewhere in the world. Thus to this day, for the most part, the Groundcourse is a well concealed secret that was encountered whilst conducting a specific online search for radical art educational theories held over several weeks in 2003.

In her article for Frieze Magazine in 2006 Emily Pethick remarks that *"with alumni that include Pete Townshend, Brian Eno and Stephen Willats there is no doubt that the courses in Ealing and Ipswich made their mark, and it is curious that, while renowned at the time, they have not been more widely acknowledged in British art history"* (Pethick 2006).

The present chapter contains lengthy quotes that are taken from a long interview which was held with Roy Ascott in 2010. These have been kept in their entirety, transcribed more or less verbatim from what he said, since I that in re-writing them in my own words, woven into my own text, there is a danger of losing some of their essence, their vitality. A significant portion of the remaining text is based upon my reading of Ascott's own texts. In addition to these usage has also been made of Edward Shanken's 2003 article 'From Cybernetics to Telematics: The Art, Pedagogy, and Theory of Roy Ascott,' and material

which ws gathered from three further interviews, former Groundcourse students John Evans and Steve Ashley and former Groundcourse instructor Professor Bernard Cohen, make up the rest of this chapter.

## *A Genealogy of the Groundcourse*

It is of no great surprise that the Groundcourse has no immediate siblings or easily identifiable ancestors within the historic flow of art educational theories that have been built upon each other, providing the antecedents to the post-modernist debate that is unfolding today. By placing cybernetics at the centre of his method, Ascott looked far beyond the theories that were available to him in art education alone, both in terms of its history as well as in terms of the different movements underway that were coeval to his inquiry.

Ascott makes a radical departure from western art education almost from the onset, when he takes a strong stance against the unified, hierarchical and perspective oriented approach to visual art that came about with the Renaissance. His longtime unease with life drawing and anatomy standing at the core of art educational curricula was formulated in 1988, in his text 'Art and Education in the Telematic Culture' (1988, reprint 2003: 217-218), and was brought up in the 2010 interview as well:

> *"For centuries we have been dominated by the fixed viewpoint, which says that I am the boss of what I see, I create the world. In this viewpoint the human being is the centre of everything and the way you understand the human being is not through their minds, it's through their bodies. And not the energy of the body, but the taxonomy of the body. And so, we had anatomy as the core discipline for art schools which has always seemed absurd to me"* (Ascott 2010).

Ascott sees the vision which is at the core of Renaissance Humanism, and its successor the Age of the Enlightenment, as hugely detrimental to creativity since it excludes the notion of multiple points of view, of intuition (abandoned in favor of rationalism), of an unconsolidated self made up of multiple identities residing within the psyche of one human.

The following quote is a transcription from the 2010 interview, during which he talked at some length about his preference for the horizontal viewing surface since it presented the possibility of multiple viewpoints, which he set in opposition to a vertical viewing surface that inevitably enforces the single point of view. This conversation is particularly relevant to this thesis since it concerns computer screens that he examined in relation to three dimensional virtual worlds in which avatars provide shifting points of view through locomotion:

> *"The difficulty that we are facing at this moment is that we are applying Renaissance viewing to post-Renaissance thinking. We still look at the display like a painting. Even though we may interact with it (and in that sense we do change things), there is still a fundamental shortcoming in that, since a single point of view perspective simply re-enforces all the inherent political ideas of hierarchy, of knowledge at the apex. The law of perspective equals the law of society in which information comes down from the top. The rule is set of from that vanishing point, which is God, which is the scientist, which is the state...*
>
> *Looking at all of that, which we so facilely apply to painting, we don't really bring any of this to bear on what we are doing with the screen. And yet, inherent in what we do is the Renaissance viewpoint, the verticality of the display. Once the screen is horizontal you are in a different, a more socially dynamic relationship which can provide multiple points of view. But then of course all the ways in which we viewed a three dimensional world in the Renaissance sense become obsolete and we need to replace them with new models which work quite differently and yet equally well.*
>
> *The question would then be – is there a rethinking of the field of representation in Second Life? Of the representation of a three dimensional existence in which individuals have a 'second life'; where they have minds, they have identities, they have bodies. Couldn't such a 'second life' be re-thought by examining the point of view from which we perceive it?*
>
> *What if you do not look at it from a Renaissance point of view? In other words you create another world, another point of view, another way of understanding how personas are created and how they interact. Not only through a horizontal screen which is still ruled by a Renaissance way of viewing but in an entirely new way. What could be the other way of seeing a 'second life' through avatars – one which is not Renaissance ruled? What would it mean to have multiple points of view in terms of post-Renaissance representation? All at the same time, all on one screen…"* (Ascott 2010)

Once such a fundamental break from the 'viewpoint' of Western art is acknowledged it appears to be ineffective to search for further connections between Ascott's ideology and the art educational models that came about during the centuries between the Renaissance and

now since all subsequent approaches are founded upon the very representational system and ideology which he questions.

Another difficulty in placing Ascott within the canon of art education is the transdisciplinary nature of his inquiry. While art educational theory has often been known to look at other academic fields for theoretical input, nonetheless in a survey of its history any evidence of there ever having been a merger between art and science, occurring at a cogitative level deep enough to constitute a true precedent for Ascott's work could not be found.

Therefore, instead of trying to set up tenuous connections to established art educational theories that are built upon a rationally associated historic tradition, the genealogy of the Groundcourse, as well as Ascott's subsequent teaching practices, should be construed by examining Ascott's own sources of inspiration which mostly lie outside of this body of knowledge.

**Influences**

When asked about the primary influences that shaped his overall pedagogy, Ascott's immediate and enthusiastic response was cybernetics, to which he added the philosophy of Alfred North Whitehead, and the learning theories of John Dewey. At the time when he started the Groundcourse in Ealing in 1961 further influences were apparent from his readings of Charles Fourier's theory of 'passionate attraction,'[12] which impelled Ascott to similarly define *"love as a natural, intuitive force that draws human beings towards one another, transforming multiplicity into unity"* (Ascott 2004: 75). At the other end of the utopian social vision however, Ascott also read – though by no means uncritically – B.F. Skinner's thoughts on radical behaviorism involving operant conditioning; as well as familiarizing himself with Skinner's views on social engineering that were the subject matter of his utopian novel 'Walden Two.'

12 http://www.marxists.org/reference/archive/fourier/works/ch14.htm

Shanken draws attention to the influences that Ascott came under during his own student years between 1955 and 1959, at King’s College in Newcastle upon Tyne with Victor Pasmore:

During the 1940s, while his own artistic output was undergoing a radical transformation from the figurative to the abstract, Pasmore began to evolve a new pedagogy appropriate for a new art. His intention was to devise a form of visual grammar that could provide an objective basis for abstract art. As his course at King’s College evolved he gradually widened this basal inquiry by involving Richard Hamilton who had been introducing experimental teaching methods to students within the design school. To some extent the course was influenced by the Bauhaus, but only to the extent that the Bauhaus provided a pointer in a formalist direction; acting as a modernist symbol, as an inspiration that made innovation possible, rather than a clearly laid down pedagogic method (Yeomans 2010).

The foundation course was concerned with formal values inspired by the point and line to plane method. The approach was analytical, looking at various internal processes and procedures in an open-ended and experimental manner that precluded any predetermined outcome. Pasmore was anxious to provide an objective basis for abstract art. The formal elements broadly fit into the categories of point, line, shape, positive and negative, area division, space filling, surface developments, and colour. As the course evolved under Hamilton's direction, other categories were also introduced, including perception and illusion, transformations and projections, sign and situation, image, and analytical painting, drawing, and sculpture. Hamilton's broadening of the base allowed for the possibility of a figurative outcome towards the end of the course, thus complementing the dominantly formal nature of Pasmore's beginning (ibid).

From point and line, the course systematically proceeded to shape relationships. Emphasis was given to the notion of building the shape from within so that the form grew naturally

and organically and terminated when it felt right, rather than drawing a circumscribed line around a preconceived form. In 1959 Pasmore also formalized this strategy in a book entitled ‘A Developing Process in Art Teaching.’

Edward Shanken specifically notes on the influence of Richard Hamilton, whose artwork, teaching, and theory explored the relationships between art, technology, and popular culture, anticipating the multidisciplinary writing and research nowadays associated with cultural studies (Shanken 2003: 9).

Pasmore and Hamilton represented polarities in their creative interests. Both rejected Realism and both sought to extend the frontiers of abstraction on the one hand and figuration on the other. Pasmore's abstraction was to take him into the realm of the constructed relief, sculpture, and architecture where he had a Bauhaus vision of the total unity of the arts. Hamilton, through his contact with the Independent Group in London, sought to widen the vocabulary and content of art, moving from the natural world to the man-made world of the machine and then to broader considerations of the urban landscape and urban culture. This was ultimately to lead him into the new figuration of Pop and the ‘heroism of modern life’ encountered in advertising, new technology, and the mass media (Yeomans 2010).

The main difference between the teaching of Pasmore and Hamilton, with regard to formal analysis, was that Pasmore asked his students to investigate forms independently and dissociated from the natural world, whereas Hamilton encouraged a balance between observation, invention, and free composition.

Hamilton also placed emphasis on the element of chance, where students would plot configurations based on the throw of drawing pins, matchsticks, darts, and dice. These aleatory processes reflect Hamilton's interest in Dada and Surrealism and his deep involvement in the work of Marcel Duchamp, whose chance procedures were exemplified in works such as ‘The Large Glass’ (ibid).

Ascott was influenced by Hamilton's *"championing of the place of ideas in art, his questioning of all the certainties, in life as much as art."* Hamilton and Ascott were equally fascinated by technology, although each approached it differently: Hamilton's abiding interest in formal techniques and finish, as well as his continued adherence to traditional media, diverged from his student's experiments in expanded media, which focused on the conceptual and behavioral aspects of art as an interactive process and system. *"Unlike his mentor, Ascott (like Duchamp) fused his interest in technology with esoteric and hermetic forms of knowledge."* (Shanken 2003: 10)

Shanken suggests that the interdisciplinary models of art education that Pasmore and Hamilton had developed can be seen as precursors to Ascott's own cybernetic and telematic pedagogies. Hamilton's curriculum incorporated principles of morphology derived from D'Arcy Wentworth Thompson's book 'On Growth and Form,' through which the course worked upon a model of how aesthetic forms might emerge from processes akin to organic development. Ascott credited his mentor for opening up the idea of the artwork as a developing process and for his insights into the integration of art, architecture, and technology. *"Indeed, Pasmore's theoretical approach to art and his agglomeration of diverse aesthetic, philosophical, and scientific ideas foreshadowed the sorts of associations that Ascott would apply in synthesizing his own method."* (Shanken 2003: 9)

Yet another influence of the Newcastle years came about while Ascott was studying art history under Sir Lawrence Gowing. Through this connection he became familiar with Henri Bergson's ideas which influenced his understanding of modern painting and particularly the work of Paul Cézanne. Although typically discussed in terms of the construction of space, Ascott suggested Cézanne's paintings were equally evocative of time. As evidence, he identified the simultaneous and shifting points of view from which the artist represented his subject. Drawing on the notions of *élan vital* and *durée*, he concluded that Cézanne's canvases exemplified the constant flux that characterizes the durational phenomenon of

consciousness. *"From this perspective, Ascott extrapolated a general principle for painting in which the essence of reality is embodied in change writing in 1959 that "to the painter who is dependent principally upon his visual researches for a greater perception of reality, it is the visual change in the state of things (either in themselves or in his consciousness) which will reveal their essential reality,"* (2003: 28)

**Cybernetics**

Roy Ascott recalls the summer of 1961 shortly before he started the Groundcourse at Ealing Art College as his *"Eureka moment"* when he first encountered cybernetics, providing him with a starting point from which observations of the world could be made through connections, a solidification of ideas that nonetheless remained interfusable, and an awareness of change as fundamental to an experience of reality:

> *When I came across cybernetics I realized that it was the discipline for dynamic relationships. I felt that if we're talking science and arts – then let's talk science. And then the core of that is cybernetics – which is all about dynamic relationships. That, for me, was the start from which point onwards it was just a matter of progression. You see where the primary objectives have to be: They are not objects. They are not representation. They are process. They are behavior. They are dynamic relationships.*
>
> *Once I got to the core of cybernetic thinking, for me it replaced the body of Renaissance and Enlightenment canon of thinking and seeing, which I had always considered to be very detrimental for creativity, even from the very early days of my art practice. However, after seeing the potential in cybernetics the rest very quickly followed. To give an example, if you project the ideas embedded in cybernetics further, then you no longer talk about a city in terms of designing buildings, you talk about a city as a behaving organism. Then you can envisage what a city will be like sixty years from now. Or, you can envisage how an art school could be put together. So many things fall in place for me through cybernetics that it is an absolutely essential method – a view of life, if you will. And it just flows forward."* (Ascott 2010)

Cybernetics offered an explanation of phenomena in terms of the exchange of information in systems and was derived in part from Claude Shannon's information theory that provided a model for explaining how messages flowed through feedback loops in systems. By treating information as a generic substance it enabled cybernetics to set up parallels between informational transmission in electromechanical systems and in neural networks. Thus, the

field held great promise for creating intelligent machines, as well as for helping to unlock the mysteries of the brain and consciousness. Moreover, the parallels that could be drawn by using a cybernetic model allowed the theory to be applied to a wide variety of disciplines, including physiology, social sciences such as anthropology, and art. However parallels between art and cybernetics were not yet inherently manifest and consequently a bridge had to be constructed by creating metaphorical parallels or conceptual correspondences that joined the scientific discipline with aesthetic discourse. By constructing such metaphorical parallels between the two disciplines, artists were able to utilize cybernetics as a model for aesthetic research, and as a paradigm for reconceptualizing the notion of art itself. (Shanken 2003: 18, 21)

Ascott has contributed to this discourse through his focus on non-material aspects such as temporality, change, interactivity and motion in art systems. Ascott formalized his approach through his emphasis on the concept of feedback to invoke such states between artist and artwork and environment. His approach emphasized the artistic process (as opposed to the product), and accentuated the environment or social context (as opposed to conventional subject matter or style); a stance which he described as *"when art is a form of behavior, software predominates over hardware in the creative sphere. Process replaces product in importance, just as system supersedes structure"* (Ascott 1967). These tendencies helped to create intersections between scientific and aesthetic contexts. As part of this amalgamation between art and cybernetics Ascott also drew on Bergson's concepts of *élan vital* – an immaterial animating factor essential to life, and *durée* – the consciousness linking past, present, and future that provides a unified experience of the synchronic relatedness of continuous change (2003: 26-27)

In the mid-and late 1960s words such as 'system', 'structure', and 'process' had particular currency in art and in culture (De Salvo 2005). Created even earlier than the 1960s, Nicolas

Schöffer's CYSP I (1956) [13] is considered to be the first of a strain of cybernetic artworks that involved shared circuits within and between the living and the technological, seen in the works of artists such as Robert Breer and Jean Tinguely, amongst many others. Cybernetic art was theorized upon by writers such as Jonathan Benthall, Gene Youngblood, and Jack Burnham who in his 1968 text 'Beyond Modern Sculpture' builds cybernetic art into an extensive theory that centers on art's drive to imitate and reproduce life (Whitelaw 2004).

In the catalogue of the exhibition 'Open systems: rethinking art c.1970,' Donna De Salvo states that this radical rethinking of the art object led to experiments in all media – film, video, dance and performance, and challenged traditional categories of art making, and the institutions and galleries that formed the art system. (De Salvo 2005).

Ascott's vision of cybernetics was not aligned with how the art world of the 1960s perceived this field in general. The prevalent view, which was altogether different from Ascott's conceptual, non-materialistic – if not indeed spiritual vision, revolved around a glorification of computational hardware which was demonstrated in the mechanized, robotic content of Jasia Reichardt's exhibition Cybernetic Serendipity of 1968. Ascott notes however, that interestingly enough Reichardt's original concept had been altogether different from the actual exhibit itself since Reinhardt had initially contemplated an exhibition revolving around aleatoric systems. That such content would have been far more suited to the title of the exhibition than was the case with what was actually shown is evident.

However, yet another cybernetic art project of the period, Cedric Price and Joanne Littlewood's 'Fun Palace' from 1970 found great resonance with Ascott. What Price and Littlewood envisioned was almost in the nature of a home for the population that Ascott foresaw for the Cybernetic Art Matrix, which he had codified only a few years ago in 1966. Instead of an exhibition space designated for the display of computational objects, Price and Littlewood proposed a construct in which computation and industrial building technologies

*13 http://www.olats.org/schoffer/cyspe.htm*

would be put to use as the infrastructure of a dynamic, behavioral architecture, a *"laboratory of fun"* (Price and Littlewood 1968: 132) that could be used for entertainment and artistic/theatrical performances. Central to Price's practice was the belief that through the correct usage of new technology, including but not limited to computers, the public could have unprecedented control over their environment, resulting in a building that could be responsive to its visitors' needs and the many activities intended to take place there.

Using an unenclosed steel structure, fully serviced by travelling gantry cranes, the building was comprised of a 'kit of parts': pre-fabricated walls, platforms, floors, stairs, and ceiling modules that could be moved and assembled by the cranes. The structure was planned to be variable to the extent that Price described in his proposal as *"resembling a large shipyard in which enclosures such as theatres, cinemas, restaurants, workshops, rally areas, can be assembled, moved, re-arranged and scrapped continuously"* (Floros 2011: 475).

As its publicity brochure suggested, there was a wide choice of activities: *"Choose what you want to do – or watch someone else doing it. Learn how to handle tools, paint, babies, machinery, or just listen to your favorite tune. Dance, talk or be lifted up to where you can see how other people make things work. Sit out over space with a drink and tune in to what's happening elsewhere in the city. Try starting a riot or beginning a painting – or just lie back and stare at the sky."* (Howkins: 2010, 77)

In his 2006 article Stanley Matthews describes how Ascott became an enthusiastic contributor to the project: The culmination of cybernetics and game theory in the Fun Palace was the 'Pillar of Information,' which Ascott designed for the Fun Palace's main entry. This was an electronic kiosk that could search, display, and track information of all sorts. His system was among the earliest proposals for public access to computers in order to store and retrieve information from a vast database. In addition, the system would keep a memory of all previous inquiries. As one person sought information from the pillar, it would record a

trace of the transaction, and the system would suggest multiple knowledge pathways to subsequent users. Ascott envisioned that this would give users insight into the interests and queries of other Fun Palace attendees. Based on patterns of user interaction, the Pillar of Information would gradually develop an increasingly complex network of cognitive associations and slippages as a kind of nonhierarchical information matrix, both allowing and provoking further inquiry beyond the user's initial query.

> *"The resultant web of information and free association to be produced by the Pillar not only anticipates the Internet by some three decades but also recalls the rhizomatic theories of knowledge developed in the 1970s by Gilles Deleuze and Felix Guattari since for Deleuze and Guattari knowledge does not stand like a hierarchical monument of linear associations but spreads like an omni-directional rhizome linking disparate ideas."* (Matthews 2006)

Another one of Ascott's concepts for the Fun Palace was an 'Identity Bar' from where visitors would be able to purchase a novel identity to be used during their stay and beyond; an idea that also finds a continuity of sorts in the 'information bars' of his 1989 art work 'Aspects of Gaia,' which were metaphorical cocktail lounges for the consumption of data that were embedded into the installation.

Returning to the 'Fun Palace' however, the project failed to materialize. Despite Price and Littlewood's best offers sponsors could not be found, permissions could not be obtained, and the Fun Palace, or even a close semblance to the original concept of a cybernetic architecture based upon dynamic user relationships, remains un-built.

**Artist / Author**

> *"Ascott renounced the idea that the essence of art could be crystallized in material objects, arguing that art was, rather, characteristic of the behavioral processes by which such objects are generated. For Ascott, art possessed value only to the extent that it enabled a mental, conceptual shift – a transformation of consciousness that altered the relationship of artist, artwork, and audience, thereby changing the behavior of the system they constituted."* (Shanken 2003: 11)

An account of Ascott's own creative career as constituent to the genealogy of the Groundcourse is significant since, aside from the importance that his oeuvre carries in its own right; it also provides standards that authenticate his teaching strategies through his own practice. The following is extracted in part out Shanken's article 'From Cybernetics to Telematics: The Art, Pedagogy, and Theory of Roy Ascott' which is also the introduction of the 'Telematic Embrace,' and in part of my own readings of Ascott's texts.

***Figure 05: "Change Paintings," Roy Ascott, 1959 – 1968, Composite image.*** [14]

'The Change Paintings,' a series that Ascott began to work on in 1959, were movable constructs made out of glass panels which slid along tracks through which they could be re-arranged by their viewers; possibly constituting the first examples of his behavioral art works. Although the art works did not show behavioral properties in and of themselves, they called upon the unfolding of a dynamic relationship between artist, artwork and audience in

*14 Image Courtesy of Roy Ascott.*

order to come into being and can be termed as behavioral in that sense. According to Frank Popper, together with Agam's work these paintings were *"perhaps the first to launch an appeal to total participation, (in which) the strict antinomy between action and contemplation was entirely abolished"* (Popper 1975). Although they were made before Ascott became acquainted with cybernetics in the summer of 1961, the parallel he subsequently drew between *"the aesthetic principle of interactivity and the scientific theory of cybernetics*" (2003: 3) is already implicit through his quest to join art work with concepts such as duration and change that had their bases in philosophy and science.

By the mid 1960s Ascott had already begun to think about the implications of telecommunications on culture. At the same time that the initial formal concerns of conceptual art were being formulated under the rhetoric of 'dematerialization,' (2003, 4) Ascott was considering how the ethereal medium of electronic telecommunications could facilitate interactive and interdisciplinary exchanges, such as artistic discourses which could bring forth a global collaboration. Moreover, noting parallels between neural networks in the brain and telematic computer networks, Ascott proposed that global telematic exchange could expand human consciousness, with the help of non-Western systems of knowledge that he fully recognized as viable counterparts of occidental epistemological models.

> *"In his combination of science, art, and esoteric knowledge, Ascott sought no unequivocal resolution to seemingly irreconcilable methods of understanding. Rather, the artist recognized the paradoxical nature of knowledge and the contradictions inherent in formal epistemologies. Like an appropriate response to a koan, an enigma that cannot be resolved by any logical formula, his multifaceted theoretical approach to art broadened comprehension of the underlying systems by which visual meaning is culturally constructed."* (Shanken 2003: 5)

Ascott extended the convergences he drew between art and science to include non-Western systems of knowledge by suggesting equivalences between I Ching hexagrams, the binary notation of computers, wave forms of information transmissions, and biomorphic shapes. These were added to a long-standing influence in Ascott's life, namely Marcel Duchamp, and his usage of the Duchampian technique of 'chance' as a methodology for creative

process. Such an intersection of ideologies brought about works such as Cloud Template (1969) and Change Map (1969) which Ascott created by using aleatoric methods that were realized by throwing coins (as in casting the I Ching) on top of a sheet of plywood through which chance patterns were developed by drawing lines and curves connecting the points marked by the coins that were used to progressively remove segments, ultimately resulting in an unpredictable shape.

***Figure 06: "Transaction Set," Roy Ascott, 1971.*** [15]

Underscored should also be that Ascott's preoccupation with a merger between systems of knowledge that are commonly held to be irreconcilable has continued throughout his career up until today; especially coming to the fore with texts such as 'Weaving the Shamantic Web' in 1998. This text came out of his initiation into the Santo Daime community in Brazil, causing him to dwell upon the commonalities between technological and ritualistic methods for expanding consciousness, as well as for creating meaning through the technoetic aesthetic.

During the 1970s Ascott's physical relationship to his materials became increasingly more horizontal, reflecting a bird's-eye view of the canvas. The verticality of the work process altered the physical relationship of the artist to his work, as indeed had also been previously the case with Jackson Pollock, who was yet another major influence; as well as Duchamp, whose significance has previously been mentioned. This work embodied Ascott's ongoing

*15 Image Courtesy of Roy Ascott.*

shift of approaching painting from a ‘window on the world’ stance to one of a cosmological map of physical and metaphysical forces. This concern eventually compelled Ascott to create works such as ‘Transaction Set’ (1971) which made use of a table as a ‘canvas,’ on which various ‘table-top strategies’ could be played out. (2003: 32-33)

Ascott’s use of text in an artistic context was arrived at independently of, and yet in tandem with, the development of conceptual art. In the 1960s, Ascott did not yet fully conceive of his writings as art; but rather as being in a unified relationship with his art work. However, he had already begun to consider ideation and writing as artistic acts. Recalling that period and the liberation that creating texts had afforded him, he later observed: *“There’s nothing you can’t do when you’re writing as an artist”* (2003: 11, 17).

During this time the thesaurus became an explanatory metaphor for Ascott, and text became a more integral part of his art work through this connection. This was evident in two works – ‘Video Roget’ (1962) and ‘Thesaurus’ – which were part of the catalog for the ‘Diagram Boxes and Analogue Structures exhibit’ shown at the Molton Gallery in 1963. Ascott placed an aligned diagram on tracing paper, entitled ‘Thesaurus,’ on the page preceding ‘Video Roget’ in the catalog. By flipping ‘Thesaurus’ over ‘Video Roget,’ words on the former were superimposed on the shapes of the latter, bringing about relationships between words and forms, and indicating various feedback loops between them.

The 1963 catalog also held a two page diagram, drawn like an electric circuit that further declared Ascott’s intention to use text within an art context, thereby proposing that the potential meanings of his art could be derived taxonomically and discursively. “*In this multilayered process, meaning was contingent on the flow of information between the artist, the object, the semantic systems that govern the reception of works of art, and the actual responses of viewers. Moreover, since Thesaurus and the diagram were largely textual, Ascott expressly put in writing his intention to use language in and as art.”* (2003: 12)

Thus, it was to be expected that a considerable portion of Ascott's work during the following years in which he moved into telematics revolved around text, particularly examined through 'distributed authorship,' as was the case in his landmark telematic art work 'La Plissure du Texte' which was shown in at the Musée de l'Art Moderne de la Ville de Paris in 1983.

***Figure 07: "La Plissure du Texte," Roy Ascott, 1983.*** [16]

For Ascott, a progression from cybernetics to telematics as the framework of artistic activity is already evident in 1967 from his article 'Behaviorist Art and the Cybernetic Vision,' no matter that the global communication network which he discusses at the time was yet in its infancy. In any case, for Ascott this can be seen to have been a spontaneously natural step given that telematics is inherently cybernetic in that it pertains to a global network in which information flows between its interconnected nodes.

Ascott's telematic art expanded on the parallels he had already drawn between science, philosophy, non-Western cosmologies, and art. The asynchronicity of networked exchange, and its capability to bend time, led Ascott to draw parallels between networked communications and alternative systems of knowledge and divination that he evinced in 'Ten Wings,' which was exhibited as part of Robert Adrian's 'The World in 24 Hours,' a telecommunications project commissioned by Ars Electronica, connecting artists in sixteen

*16 Image Courtesy of Roy Ascott.*

cities on three continents in 1982. In his text 'Beyond Time-Based Art: ESP, PDP, and PU' (1990), he re-interpreted the connections between cybernetics and parapsychology which he had made twenty years earlier in his essay 'Psibernetic Arch' (1970) to encompass telematics, identifying correspondences between telematic consciousness and parapsychology in both of which the exchange and processing of information occur in anomalous temporal modalities.

In 1989 Ascott's 'Aspects of Gaia: Digital Pathways across the Whole Earth' combined the disembodied experience of cyberspace with the corporeal experience of the physical space of Ars Electronica in Linz. The work brought together a global network of participators to collaborate in the creation and transformation of texts and images related to British chemist James Lovelock's 'Gaia hypothesis,' which proclaims that the Earth (Gaia) is a living organism, and that its climates, atmosphere, geography, flora and fauna have co-developed in a way that sustains the vitality of the planet. What emerged was a portrait of the Earth *"seen from a multiplicity of spiritual, scientific, cultural, and mythological perspectives"* (Ascott 1990, reprinted in 2003: 241) through which the viewer became part of an experience that revolved around the relationship between telematic consciousness and the Earth as a living entity.

With the installation of 'Aspects of Gaia' however, we once again come back to Ascott's pronounced preference of horizontal displays over vertical ones, which in this instance was implemented through the usage of the hardware itself: Large horizontal screens allowed viewers to gaze down from many viewpoints onto a data stream of images and texts contributed remotely from all over the world. These displays were set into several 'information bars,' around which viewers could sit on high stools, as if at a cocktail bar, gazing into pure data space. The networked images that appeared could be altered either by acoustic sensors that responded to the sounds of the users, or by a computer mouse on the counter. Thus, interaction by voice and gesture led to the creation of new potentialities,

which could then be retrieved by the computer and stored pending their eventual insertion back into the planetary network.

As telematics progressed from asynchronous to real-time states, to the World Wide Web and into virtual worlds, Ascott, true to his own principles, changed and adapted his ideations to the developments. His theory encompasses 'technoetics,' a term that he proposed in 1998 whilst writing on the Shamantic Web, and which refers to matters that concern cyberception and the technology of consciousness. 'Technoetics' also resides upon a former concept that he developed in 1993 – 'Telenoia,' derived from the Greek words tēle – 'far off,' and nous – 'mind.' Telenoia describes networked consciousness, interactive awareness, and 'mind at large.' Although a term coined by him, according to Ascott 'telenoia' should actually have a very ancient provenance:

> *"It perhaps should have been the very first word to be uttered as we emerged into our humanness, as we evolved our distinctiveness amongst the primates, signaled by the emergence of shared consciousness, from which I suppose our sense of society and social responsibility grew. But if, in the beginning, the Word was Telenoia; it is evident now that we lost it, perhaps in inverse ratio to our gain in verbal intelligence, or at any rate in the cultural prioritization of linear, mechanical thinking, which was especially accelerated during our recent history of deterministic industrialization. Certainly, we abandoned right hemisphere thinking – visual, mosaic, all-at-once-thinking – long ago. The left hemisphere of our brain (controlling the right side of our body, and instrumental in the 'right' kind of social acts) had acquired dominance over the right hemisphere, just as patriarchy replaced matriarchy. The stately progression of logic, step by step, has won for it an authoritative gravity, which discredits the dazzling speed of intuition."* (Ascott 1993, reprint 2003: 259)

His vision of telematics and technoetics is summed up in 'Is there Love in the Telematic Embrace?' an essay which was originally prepared as a talk given during the 1990 New York meeting of the College Art Association. Recapping some of its content may be a befitting way to conclude an account of Ascott's creative practice since the text raises significant questions, definitions as well as possibilities for the future of telematics and creative activity which were yet to be in full evidence in 1990. Indeed at the onset of his text Ascott points at the deep seated fears in mainstream culture at the beginning of the last decade of the 20th century with regards to *"the machine coming to dominate the human will*

*and of a technological formalism erasing human content and values."* Instead, Ascott sees a *"sunrise of uncertainty, a joyous dance of meaning between layers of genre and metaphoric systems, this unfolding tissue woven of a multiplicity of visual codes and cultural imaginations,"* that may yet fulfill the failed promise of postmodernity that initially dawned under very similar tenets, *"before it disappeared under a corpus of social theory leaving only its frail corpus of pessimism and despair."* (Ascott 1990, reprint 2003: 234)

Ascott shifts his focus of aesthetics from the observed object to the participating subject, from the analysis of observed systems to the second-order cybernetics of observing systems. Second order cybernetics was developed between 1968 and 1975 and is based upon an examination of circularity. Thus with second order cybernetics, cybernetics itself is subjected to its own critique and understandings. It is an approach in which the role of the observer is appreciated and acknowledged rather than disguised, as had become traditional in Western science.

For Ascott this concept gave substance to a telematic canon that is immaterial and participatory, anticipating the workings of web 2.0 creative spaces well over a decade before they had their tentative beginnings when he proclaims that *"telematic content is created rather than received, […] transformed by the process of interaction,"* and then posted back into the network for storage, distribution, and re-transformation at other access nodes across the planet. *"Creativity is shared, authorship is distributed,"* however not at the expense of the individual. "On the contrary, telematic culture amplifies the individual's capacity for creative thought and action, for more vivid and intense experience, for more informed perception *"by participation in the production of global vision through networked interaction with other minds, other sensibilities, other sensing and thinking systems across the planet – thought circulating in the medium of data through a multiplicity of different cultural, geographical, social, and personal layers."* (2003: 238)

## *The Groundcourse*

> *"Cybernetics offered a clear model for reconceptualizing art and education – and their roles in a larger social system – by suggesting the organization of art education curricula in terms of a behavioral system of feedback and control. The course of study Ascott implemented […] focused on these cybernetic principles. Students collaborated together as elements of a system that regulated their artistic behavior as an integrated whole."* (Shanken 2003: 35)

The above quote outlines the cybernetic credo of the Groundcourse as a unique learning strategy in the clearest possible manner. The course had a lifetime of 6 years between 1961 and 1967; the first three years of it at Ealing Art College, from where it moved to Ipswich Civic College in 1964 to continue there for a further three years. Although Ascott's cybernetic learning principles always found prominence within the many successive art programs that he directed or taught at; as a cohesive, all inclusive learning strategy the Groundcourse itself was not repeated in its entirety after the Ipswich years.

The Groundcourse materialized at a time when institutions originally intended to provide artisanal training became autonomously regulated spaces in which much of British popular culture during the third quarter of the 20$^{th}$ century was produced and disseminated (Beck and Cornford 2012). For several decades after World War 2 180 instiutions that fit this description proliferated across the country, many of them in small towns (Frith and Horne 1984).

Art schools provided a viable training environment for those sections of the population who benefited from the Butler Act but were not eligible for or interested in a university place. Art schools fell under the jurisdiction of Further Education: The main art school qualification after 1946 was the National Diploma in Design (NDD), a four-year program aimed at school leavers that was split into two years of introductory training followed by two more years of specialization in a major and minor subject drawn from a range of craft and design options.

What is significant is that the local art school provided an entry point for many of the designers, photographers, advertising executives, musicians, filmmakers and artists who would proceed to define an emerging British popular culture in subsequent decades, at the same time cementing the status of ‘art school’ as the site of creative possibility and social mobility. The term 'art school,' especially during the 1960s and 1970s, became a shorthand in the UK for a set of values and practices – outward-looking, international, experimental – that stood as an alternative model to the mainstream lifestyle. What was particularly striking about this cultural moment was that this alternative way of life was being lived in over a hundred towns across the country, by thousands of students. Thus, art schools became not only skills providers but were the portal through which the most advanced cultural debates and practices of the time could be encountered. *“It is this collision of tradecraft and high art, experienced by an unprecedented socially diverse student body, that produces the moment of the British art school as an engine of unforeseen cultural outcomes”* (Beck and Cornford 2012).

Ascott reflects that it was quite likely that he was initially brought on board at Ealing Art College in 1961 due to his familiarity with Victor Pasmore’s teaching strategies with whom he had studied and then worked as a studio demonstrator as part Pasmore’s famed basic design course at King’s College Newcastle, which was then a part of the University of Durham. However, during the summer between leaving Durham University and starting at Ealing Art College, Ascott became acquainted with cybernetics through two books: Ross Ashby’s ‘Design for a Brain’ (1952), and F. H. George’s ‘Brain as Computer’ (1962). These very quickly led him to Norbert Wiener and the canon of cybernetics, as a consequence of which his entire viewpoint with regards to art education was changed. Thus in his own words, while the Ealing Art College thought that *“they were getting an implementation of Pasmore’s basic design course, instead what they got was cybernetics”* (Ascott, 2010). In the event, and much to their credit, the directors of the school let Ascott proceed unhindered

in developing and implementing what was, after all, a yet untried methodology at that time. The outcome was a radically constructivist two year foundation art program based upon cybernetics, that is described in detail in Ascott's 1964 article, 'The Construction of Change.'

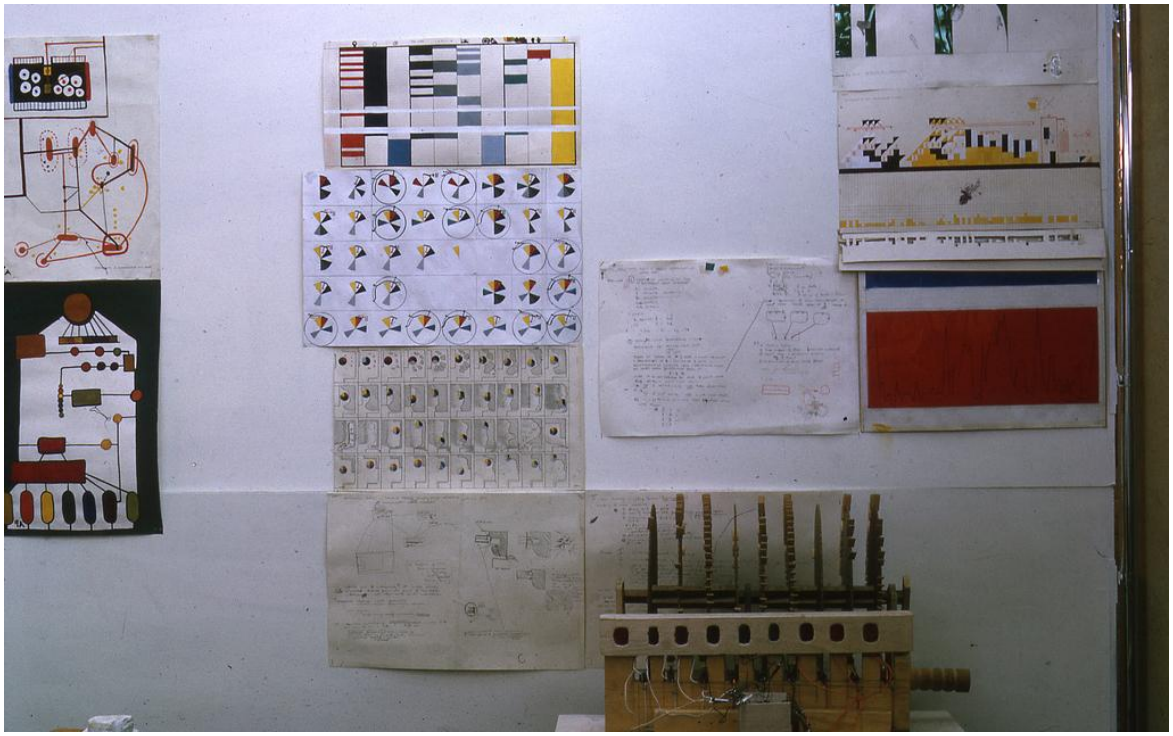

***Figure 08: "Groundcourse Behavioral Project," Ealing 1963.*** [17]

The structure of the course was divided into two distinct parts based upon the two years of study: The first year was constructed around learning activity undertaken through discrete studio exercises in which *"empirical enquiry in response to precise questions was balanced by scientific study; irrational acts by logical procedures."* In the second year this methodology progressed to one where the general direction was still programmed, however within this programmed structure the students had to devise their own problems instead of following set assignments. Out of Ascott's deep held convictions concerning the positive social function of art as an instrument of education and transformation came the practice that throughout the course all studio learning and activity transpired within a context in which

*17 Image Courtesy of Roy Ascott.*

theoretical concerns and the broader implications of art were foregrounded through lecture and theory classes (Shanken 2003: 24). Importantly, cybernetics and behavioral sciences were studied regularly. Underlying it all however, was a concern to *"enable the student to become aware of himself and the world, while enabling him to give dimension and substance to his will to create and change,"* resulting in a learning environment that was *"not a rigid system but a flexible structure within which everything can find its place, and every individual his way"* (Ascott 1964).

***Figure 09: "Groundcourse. Student analytical drawing," 1965.*** [18]

Ascott especially emphasizes that the Groundcourse was not founded upon a notion of 'critical mass,' where countless students are sacrificed in order to develop the select few amongst them that show the greatest creative potential. Instead, the system sought to elicit the fullest amount of creativity that was within the scope of each and every individual that passed through it. Thus, even when speaking of Brian Eno who as a student was already

*18 Image Courtesy of Roy Ascott.*

showing signs of developing into the remarkable musician that he eventually came to be, Ascott speaks of the experimentation, of the playfulness, of the unselfconsciousness that Eno demonstrated during the time that he was at Ipswich:

> *"You can deal with rhythm and sound and pull plugs and levers. You can make a creative intervention in the world. And oh! – it is called music! In other words, not 'I will do music' but 'I will do stuff, I will make things happen in the world. And I have this thing called a synthesizer and it makes sounds out of which I can make music.' And the outcome was not 'an artist' (although actually it is of course so in the best possible sense of the word), but a person who moves through the world creatively."* (Ascott 2010)

Professor Bernard Cohen, who was interviewed in May 2011, was one of the first instructors to come on board since he was already teaching at Ealing at the time and immediately felt drawn to both Ascott as well as the potential that he saw in his strategy. During our talk he gave a context regarding the era in which this all came about: The war had ended only 15 years ago and food rationing in England had stopped only in 1954, and the memories of shortcoming were still fresh in everyone's minds. Cohen said that, possibly because of the influence which the recent years of hardship had administered, he remembered the period as being one in which they did not think in terms of material success, or in terms of striving for what one did not yet possess – instead *"we were simply happy! And what is more is that none of us saw ourselves as 'important.' We had ideas about real, tangible things and concepts in which the 'political' (in the sense of the word today) was not at all the objective. What we wanted to come to grips with, what we wanted to accomplish, was something far more fundamental, which is what the Groundcourse was also all about."* Thus, Cohen ascribes at least some of the success that the Groundcourse demonstrated to what he described as the generous mindset of the times, which brought artists, designers and scientists together with such selfless enthusiasm as instructors collaborating upon the educational strategy that was shaping up under the roof of the Groundcourse. Cohen also remarked upon Ascott's particular brand of generosity, about which he said that the Groundcourse *"was nothing less than an invitation to invent your life – not for success, not*

*for money and so on – but in the profoundest sense of the word. This applied as much to the staff as it did to the students. In this sense Roy Ascott was the ultimate enabler."* (Cohen 2011)

***Figure 10: "Groundcourse Behavioral Project," 1965.*** [19]

Since *"a founding principle of cybernetics is that information is generated out of requisite variety"* (Ascott 2010), one the first charges which Ascott had to undertake was finding a group of individuals who would be suited to become the diversely placed faculty through whose contrasted input the teaching content and strategies could be put into effect. Ascott did not only look amongst artists and designers but also extended his search amongst scientists from various fields, especially the behavioral sciences and cybernetics. During the Ealing period Kenneth Adams, Anthony Benjamin, Adrian Berg, David Bindman, Dennis Bowen, Bernard Cohen, Harold Cohen, Noel Forster, B. French, N. Johnson, R. B. Kitaj, Stephen McKenna, J. Morris, J. Nerichov, George Popperwell, Peter Startup, William Suddaby, Brian Wall, and Brian Wright were all involved as educators for all or part of the

*19 Image Courtesy of Roy Ascott.*

three years during which the Groundcourse was in effect at this location. This core team was supplemented by numerous visiting lecturers, amongst them also cybernetician Gordon Pask.

Cohen, who in more recent years has continued his teaching career as a Slade Professor at the University of London, sums up his teaching philosophy through a question divided into two parts: The first part of the question which he expects art students, and for that matter all artists, to ask themselves is "*what is it that is inside my head, and that I want to see, and that no one else can show me?"* followed in time by *"and now I have to think of a world which the thing that was inside my head will inhabit"* (Cohen 2011). The first part of the question does reflect Cohen's own aesthetic understanding which appears to be sufficiently different from Ascott's own standpoint to bring about the sort of diversity in approach that was being sought. The second part of the question however seems to dovetail with Ascott's behavioral definition, since in it is implicit the concept of a dynamic relationship between the artwork and the artist, within an environment that needs to be accounted for.

The goal of the first year was that the new student's preconceptions towards art and their limitations with regard to their own identities/skills as budding artists had to be opened up to their own scrutiny. This was also achieved through the disorientation provided by an environment that was sometimes unexpectedly confusing, where they would often be faced with problems that might have initially seemed absurd, aimless, or even terrifying. Ascott's article holds several long lists of studio exercises that were undertaken during the first year. From these it becomes very obvious that none of the hitherto accepted building blocks of visual art were to be taken at their face value, that their workings were to be questioned at all times. It is out of such a concern that we arrive at exercises such as 'drawing a room in reverse perspective,' or 'drawing an acute ear ache.'

One of the tasks for the diverse faculty was the invention of the countless problems that provided the content of these exercises with which first year students were bombarded

throughout the year. Through them concepts of behavior, environment and identity found their way into practical classes. Amongst the examples given in Ascott's article is one that calls for drawing a man, machine, or animal; cutting up the drawing into seven sections, putting the pieces with everyone else's in a box and then pulling out seven at random to logically construct a new entity, finalized by drawing the environment in which one might expect to encounter it; a procedure akin to the Surrealist method of the 'Exquisite Corpse.' Another such exercise involved showing with line and colour the potential function of the studio door, a water tap, an elephant, the window blind and then attempting to describe what they might have in common. On a more macro level however was creating a world on paper with major and minor structural systems, showing a fault occurring in the minor one; and then designing a repair centre to put it right. Finally one of the most complex ones came about when students were asked to visually discuss the proposition that 'entropy is a constant drift in the universe towards a state of total undifferentiation and in which pockets of resistance are organizing continuously,' by limiting themselves to six elements.

The Groundcourse exercises were also discussed with two former students who took the course; John Evans and Steven Ashley, whom were interviewed together in Oxford in May 2011. Both have stayed in the creative fields, Evans as an architect and Ashley as a professional musician. Both of them ascribe much of their subsequent success to what they had learned during the two years that they spent at Ealing. Indeed Ashley articulated his thoughts by saying that *"if creativity is a muscle, then the Groundcourse was its gym."* Evans and Ashley gave many examples of the ways in which creativity was elicited. While some of these procedures did involve specific assignments that the students undertook in studio classes, quite a number of them also occurred during lecture classes: One that both recall vividly took place in a behavioral science class to which a lie detector was brought and with which tests and experiments were conducted. Yet another one was what can be called a tangible demonstration of relativist philosophy, taking place some two decades before the

apex of the movement itself in the 1980s: After watching a short incident played out by several people on stage, the audience had to then write down what they had just witnessed. Once the individual descriptions were read out loud it was evidenced that their accounts were utterly different from one another, in other words that their perception of the event had not been an objectively universal truth.

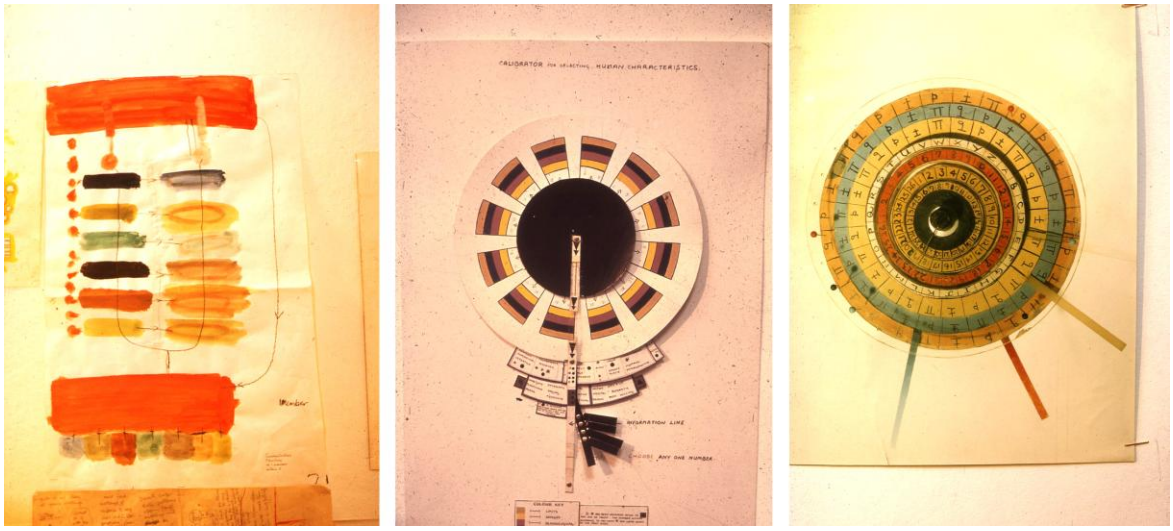

***Figure 11: "Groundcourse. Mindmaps," 1961 – 1967.*** [20]

Intriguing components of the system were the 'irritants' which are emphasized in the 1963/1964 prospectus as an integral part of the strategy since:

> *"the intention of the Groundcourse is to create an organism which is constantly seeking for irritation. The term 'organism' may be applied to both the individual student and to the Groundcourse as a whole. The irritation of the organism is applied in three different directions: towards the social relationship of the individual to his environment; towards the limitations implied in material situations; and towards conceptual possibilities, the physical embodiment of which is unimportant"* (Ascott 1964).

During the interview Ascott was asked to talk more about the 'irritants':

> *"It arose out of the idea of antinomy which literally means mutual incompatibility. So, it is about contradictions. In the 1960s we were not yet talking about relativism, but that is essentially where this idea came from – that there is instability of anything that one talks about, whether it is art or truth or vision or identity. This leads to the necessity of planting these uncertainties, these seeds in the system. And that is the irritant, the grain of sand in the oyster, if you will.*

*20 Image Courtesy of Roy Ascott.*

*It has got nothing to do with annoyance, which is what it could be thought to have to do with; it has to do with a pointed difference in what is thought to be true. So, as an example, in some of the typical drawing problems that were given to students – such as draw the room in reverse perspective, there was an element of impossibility. After all, what does that mean? Can't even be done – you would get infinity…*

*So, it is a combination of ambiguity and of contradictoriness – that little bit that gets under and that causes the creative thought to take place."* (Ascott 2010)

During the second year of the Groundcourse one of the main problems that students had to address was the task of acquiring and acting out a new personality, that was largely the converse of what they would consider to be their normal selves. When asked on how they had gone about creating these alternative identities former students Evans and Ashley could no longer recall precisely how it had all come together; and that in any case there had been no set procedure, that students had taken all sorts of routes to achieve a satisfactory result. But then, on the spur of the moment, they devised an example process involving two steps: The first step was giving class mates questionnaires that would clarify how their personalities were perceived by others. By collating the answers into a description of themselves and then going to the opposite of that they would obtain an outcome which was twice removed from their self-perception.

These new personalities were asked to form hexagonal groups that had the task of producing an 'ordered entity' out of substances and space in their environment, with severe limitations on individual behavior and ideas, lasting for a period of six to ten weeks:

*"The limitations on physical behavior were also irritants of course. First of all, the students came with pre-conceptions, not just about how the world is seen but who they are. Either they were very good or very bad at painting or drawing or some other such thing. And we wanted to show them that there isn't a 'they,' that there isn't a 'me' that is either good or bad. That instead there is 'doing things' which against a given scale is bad or good. And that there isn't a person outside of the one that you will into existence that is doing these things. And at the bottom of all that there is of course the Nietzscheian question of will, which is absolutely crucial to my manifesto, and which says that 'will' determines the 'self' and the world this 'self' is in. And it will determine what this 'self' can do inside that world.*

*Consequently, the second year program was built around two things: The first was that you challenge the idea of the 'self'; and second that, in any case, the challenging itself is theatrical. This means that there isn't an ultimate reality, a final stage where*

*you say 'this is not play, this is not theater – this is the 'real thing.' There isn't ultimately a 'real thing' at all! And therefore, one is utterly free to be what one wants to be, in the best possible sense of the word. Essentially, that was the point.*

*This proved to be very releasing to many of the students. Once they knew that it wasn't 'them,' in this particular situation for the next six weeks – that it isn't 'you,' that you have no responsibility as 'you'; instead it is all about what you construct – it opened up the floodgates.*

*However, by lifting responsibility we are not going to make the undertaking mindless either, which is the way in which a lot of people misread the system, by initially coming out with identities such as 'I will be a policeman for six weeks,' or 'I will be a good person for six weeks.' So, we are not going to read any of this on levels such as job, role, character – none of that! Instead, how about 'I will be variable for the next six weeks?'*

*And the antimony in that was that you created 'it,' you were 'it,' and you observed 'it,' instead of living with what others had told you about yourself. It was – how do I phrase this? – creative contrariness!"* (Ascott 2010)

The expected creative outcome of these weeks were 'ordered entities' that in the event turned out to be as diverse as the composite personalities of the organisms which they reflected: Totems, time machines, sense boxes, films, hexagonal cabinets, and cages were some of the results of the flux of discussion and activity. However, other descriptions of 'ordered entities' also encompassed non-material manifestations such as creating and enacting a ritual based on a specific natural system, or devising a three-dimensional ontological game.

The process held built-in systems of self-observation and control that were generated through mindmaps and calibrators which the students had to design in order to construct their new identities and then to monitor the responses of these new identities to their environment:

*"The mindmap shows how this entity relates to the world: Is there a God that controls it all? Is there an inner self that controls it all? Is it the environment? So, you could model this any way up that you liked and they were shown various ways in which it can be done, that there are these differences. And after that you build the calibrator, which was a little gizmo, usually made out of paper but sometimes also out of wood or even combinations of materials. Nowadays it would be programmed on a computer, of course. Into this device you fed the input, for example something like 'if in a large room with only two or three other people,' then the outcome is that you cannot use rope, or your left leg – which were the physical limitations that would keep changing depending upon the change in input as you moved through the environment. That was*

> *the whole point, that you had to be hyper-observant to the environmental changes, depending on which you had to re-calibrate the gizmo that would tell you what the new limitations were which the changes around you had brought about. Whatever the playout was in terms of behavior, attitude or materials, those were the conditions which you had to take into account as you went about your work.*
>
> *In the end, it was about being absolutely vigilant, to induce a kind of awareness to your environment at all times, one which would also extend beyond the studio."* (Ascott 2010)

Although the description that Ascott gives places the creation of the mindmap as the first step and the calibrator as the next step ensuing from that; there is also an alternative reading in a brief given to the second year students at Ipswich in which *"groups will be formed and readings taken by each person from the calibrators in order to design and compile mindmaps"* (2003: 154). From this it can be deduced that the process involved a dynamic feedback loop through which information was fed back and forth between the two devices, rather than providing a linear informational flow. Eno gives an account of how mindmaps could be used in many different ways by describing a project in which each student had to invent a game that would test and evaluate the responses of the people who played it. All the students then played all of the games, and the results for each student were compiled in the form of a chart – or mindmap.

> *The mindmap showed how a student tended to behave in the company of other students and how he reacted to novel situations. In the next project each student produced another mindmap for himself that was the exact opposite of the original. For the remainder of the term he had to behave according to this alternative vision of himself."* (Shanken 2003: 38; quoting from Eno et al 1986: 40–41)

At the end of the 'new identity/ordered entity' project students were invited to return to their former personalities, making a visual documentation of the whole process that they had been engaged in; searching for relationships and ideas unfamiliar to art, reflecting on and becoming aware *"of the flexibility of their responses, their resourcefulness and ingenuity in the face of difficulties. What they assumed to be ingrained in their personalities they now tend to see as controllable. A sense of creative viability is being acquired."* (Ascott 1964)

Whereas second-order cybernetics was yet to become formally theorized by Heinz von Foerster through his article 'Cybernetics of Cybernetics' in 1974, nonetheless discussions of the observer/observed must have been ongoing in the cybernetic circles in which Ascott moved during the 1960s. Regardless of whether he might have been aware of these developments or not, during the Groundcourse years Ascott was already working under the tenets of self-referentiality and self-organization that became the core principles of second-order cybernetics only a few years later: The mindmap and the calibrator appear to be devices of just such a nature, and the visual documentation of the entire creative journey of the project which the students were asked to apply themselves to upon its completion further substantiates the Groundcourse's preoccupations in this regard.

Although the 'new identity/ordered entity' project was an important component of the second year curriculum, it was not the end of it. At this juncture it was to be expected that the students were beginning to become aware of their unique creative identities and that analysis and experiment had started to lead to synthesis. From this point onwards students moved progressively into problems of their own; also choosing a preferred medium within which to work; in other words deciding upon the professional field they would act in the future. Their decisions often led them into further study at art colleges other than Ealing Art College or Ipswich Civic College, since neither institution had a satisfactory enough full four year art and design program at which they could continue their studies. It is largely this circumstance of institutional discontinuity that ultimately brought on the end of the Groundcourse itself.

**The Critique of the Groundcourse**

The primary reason for wishing to talk to former Groundcourse students and instructors was to ask them questions that would bring forth criticisms, related to instructional methodologies, or to learning outcomes, that should be taken into account as part of this

research: Were there things that happened during their times at Ealing and Ipswich that they had unfavorable recollections of? Did they feel that the learning system had benefited them or failed them? If the latter, what did they think should have been done differently? It was not easy finding these individuals after all these years, and three of them could be located: Cohen – a former instructor of the Groundcourse and later a Slade Professor at University College London; and Ashley and Evans – two of its former students. None of them provided this research with negative feedback, as will already be evident from the recount of the interviews that were conducted with them, and that were woven into the text of this chapter.

Aside from Edward Shanken's text, the Groundcourse seems to have slipped through the cracks of art educational theory entirely; thus I was unsuccessful in locating any criticism (or indeed validation) of it.

An extended survey of art educational practices was conducted as part of this research, for which Arthur Efland's book on this area was taken as a point of departure. This survey has not been included into this thesis since spontaneous convergences between the historic flow of Western art education and Ascott's learning principles were not found. The challenge in reconciling Ascott's methods to the concerns of the mainstream would also account for the mainstream's lack of acknowledgement – be it in the form of critique, analysis or affirmation. As a point in case: At the time when Ascott was working on the Groundcourse, the prevalent trend in Western art education was 'discipline-oriented art education,' spearheaded by Manuel Barkan (1966), under whose tenets art learning was to be considered in very much the same light as any other subject of the humanities; that emphasis should be placed upon art history and art criticism as the tangible subject matters of the art curriculum at all levels of art instruction from secondary education onwards. Simultaneously, another strong trend was the Arts-in-Education movement in the United States; which, again, embraced similar standpoints that foregrounded the observation and the analysis of artworks rather than an engagement in the creative act itself. These led into the era of accountability

and measurable learning outcomes for which Barkan's propositions were of course ideally suited, in that such learning could in fact be measured and its outcomes be assessed. According to Efland, these two movements, discipline-based art education and accountability-in-education have been with us ever since, albeit with minor modifications here and there, as well as adaptations to the particular cultures in which they are put into practice (Efland 1990: 240-255); as Howard Singerman's observations also appear to attest to (Stallabrass 2004: 81).

In terms of further understanding as to why Ascott's approaches were so thoroughly overlooked, a further example that can be given here is that all of the above described movements came into prominence at just around the time when Ascott, as its President, was restructuring all the departments and the curricula of the Ontario College of Art in Canada, to bring about a fully operational cybernetic art school, during the late 1960s and early 1970s.

**The End of the Groundcourse**

In order to understand the reasons as to why the Groundcourse had such a short life-span it is important to review the changes that the entire art educational system in England was undergoing during the 1960s. When Ascott started the foundation course at Ealing in 1961 the NDD, the National Diploma in Design, awarded to students graduating from UK art schools was still in effect. The NDD was awarded through a process whereby the examination output was sent to London to be evaluated in an anonymous and centralized fashion. However, the period was a transition from the NDD to the DipAD; the National Diploma in Art and Design, a reform that came about under the chairmanship of Sir William Coldstream, the then director of the Slade. The DipAD aimed to raise the rigor of a diploma in art to the level of a university degree. One of the ways in which this was to be achieved was by transferring the final examination phase from London to the art schools themselves,

conducted through personal interviews and portfolio reviews by an identified board from the school itself, as well as an external examiner. Subjects such as art history and cultural studies were now part of the examination, and their presence was held to be one of the means through which the intellectual level was raised from the prior anonymous and centralized system. Together with the DipAD an interim diploma called the Diploma of Higher Education (HND) was also introduced in order to provide a craft and practice oriented less rigorous alternative to the altogether more ambitious DipAD. Overall it was period of considerable re-thinking and re-envisioning of what art education should accomplish and Ascott himself was involved in this process by being a member of the National Art Education Commission of this period.

One of the educational phases which acquired importance as part of the new rigor expected from art education were the foundation courses that initiated all studies. The ideology that won out was not Ascott's cybernetic vision, but rather the standardized approach which involved the teaching of a basic language, through an understanding of the components of visuality such as point, line, shape, color, space, light, texture and the like.

At about the same time the Groundcourse faculty's expertise was called upon by a movement initiated by the Labor government that had just come into office. This involved a merger of art schools with polytechnics based upon a wish to have all disciplines together under one roof. Initially Ascott and his colleagues from the Groundcourse were excited over this development since in it they could see a way of bringing together various disciplines with the art school as the centre of attraction. This might have been a dramatic merger, especially if the art school in question were to be defined by cybernetic theory and constructivist learning; that is through the study of behavioral systems and their dynamic relationships bringing forth a will to reshape and change, as the Groundcourse curriculum already had demonstrated. The wind however, was blowing from the opposite direction and

polytechnics that assimilated art school into their systems became the template in the years to follow.

While they could have continued their education at Ealing Art College, many Groundcourse students wished to pursue their studies at other colleges as well. Unsurprisingly, one of the problems they faced was getting placed in continuing art and design programs given that their portfolios contained output that was very alien to what was normally expected of a foundation course study portfolio. In many places to where they applied the significance of the conceptual framework under which their work had arisen was largely overlooked; at others it was misunderstood as diagrams or as technical drawings.

Ashley who applied to Maidstone Art School after completing the Groundcourse in 1964 recalled his presentation of a complex color matching system run by a mouse on a wheel during the admittance interview, and the bewildered looks he received from the assembled board until the representative of the graphic design department suddenly 'got it' and offered Ashley, during the very last minutes of the interview, a place on his program.

When Ascott was offered the chance of designing a four year degree BA program at Ipswich Civic College he naturally took it, since this would effectively solve the problem of further study by bringing it under the same roof, as the natural continuation of the foundation course:

> *"As all of these changes came about, within them you had huge areas of resistance, of course. And needless to say we had the greatest resistance of them all, since what we were trying to bring about was so alien to everything else that was going around us – not only in education but also in the art world itself: All that we had as the tentative beginnings of conceptual art was the art and language movement, who in any case stood in radical opposition to cybernetics. The idea of having a conceptual basis to art education, much less a behavioral one based upon cybernetics, was quite unthinkable.*
>
> *The only solution seemed to be to provide continuing education for students who completed the two years with us, so that they could stay within a system which did not question their credentials until they got their final degrees. This is the reason why I moved to Ipswich, in order to be able to construct a full BA program which would*

*operate upon these principles from foundation year to final graduation."* (Ascott 2010)

As a result the Groundcourse was moved from Ealing to Ipswich in 1964. An unforeseen problem materialized when the program failed to be granted the DipAD. The ostensible reason given was that the curriculum relied too heavily on its staff, particularly Ascott himself, and that any loss of faculty would result in loss of effectiveness. However, it would seem that the true reason would have been that a validation of the Groundcourse through the DipAD would have seriously undermined the rest of the existent system; in other words, it set too differentiated an example to fit into the mainstream.

Ascott left Ipswich after this refusal. A few years later he was invited to become the President of the Ontario College of Art in Canada, where yet again his strategies proved to be too radical to find a ready home and his vision of an entire art school operating under cybernetic principles was dismantled before it was ever brought into effect.

We are currently at a juncture where according to Danto and Ascott himself the very definitions of who is an artist, and by extension who is an art student, are changing. Therefore it can be anticipated that we are moving into an era in which art and design learning will increasingly move out of institutions where definitions and learning outcomes are pre-defined and fixed, and into domains of self-learning in which content can be combined and manipulated depending upon individual needs and desired outcomes. Such self-learning endeavors have been facilitated by the World Wide Web in ways which would have been unthinkable only a few decades ago. An exception is Ascott who wrote of such an expected change as early as 1978 in a short text entitled 'Network as Artwork: The Future of Visual Arts Education' (Ascott 1978, reprint 2003: 176-177).

It is as such a domain of extra-instructional self-learning that ground <c> is expected to materialize. The following chapter will give an analysis of several broad based learning theories with which this quest will be further substantiated.

# IV. Theories of Learning

> *"Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand."* (Confucius, 450 B.C.)

Although the Groundcourse is used as the inspirational model for the project; ground<c> does not intend to be a strict replication of what occurred in Ealing and Ipswich in the 1960's; now – that is at the beginning of the second decade of the 21st century – against a background that generates its own requirements and operates in a vastly different socio-cultural climate, manifesting in a globalized world where novel technologies have engendered novel lifestyles, indeed some of them much along the lines that Roy Ascott forecast some 50 years ago while he was developing the framework of his Cybernetic Art Matrix (Ascott 2004: 133).

Beyond these obvious changes in the technological and cultural milieu however, a core distinction of the new model from its precedent leads to examining learning theories that may help substantiate the innovation: While the Groundcourse was based upon intimate interactions between instructors and students who came face to face on a daily basis, what is proposed here instead is a learning system in which the principles of the Groundcourse can be materialized as an e-learning system that is largely engaged upon in isolation – at least in the physical sense of the term.

At the end of this thesis a model in which instructors and groups of students get together virtually as the participants of ground<c>, via the metaverse and through a dedicated web architecture that is made up of interlinked communal blogs that are collected under a course

website (that is the domicile of ground<c>) will be presented. While this will go some distance in alleviating the sense of working in a vacuum by creating a community in which instructors and learners can easily commingle; nevertheless a survey of self-directed strategies in which individuals decide upon their own needs and learning content, and are supplied with devices that enable them to carry out the bulk of their activity on their own, is in order.

This chapter will combine this inquiry with a discussion of cybernetic learning and with experiential learning. Both of these come to this project from the Groundcourse. As has been established in the previous chapter, cybernetics formed the backbone of Ascott's approach, and he was also inspired by John Dewey's pedagogical philosophies which form the basis of almost all contemporary experiential learning methods. Outside of this heritage however, these strategies are compelling in and of themselves, and attaining a deeper understanding of them is a worthwhile endeavor. Thus, a significant amount of the reading that has been undertaken as part of the literature review for this thesis has revolved around these subjects, and most of this material dovetails to a remarkable extent with what is woven together as the andragogical[21] backbone of the model, also in terms of providing answers and resources that address a quest in self-directed learning.

## *Self-directed Learning*

As the term suggests, self-directed learning (SDL) views the learner as the responsible owner and manager of his/her own learning process. Thus, SDL is highly reliant upon the motivation and volition of the learner. Control in this scenario shifts from teachers to learners who exercise a great deal of independence in setting learning goals and deciding what is worthwhile to learn, as well as how to approach the learning task within a given framework (Morrow, Sharkey, & Firestone 1993). This is not to say that instructors lose

*21 Andragogy: http://www.umsl.edu/~henschkej/*

their roles altogether since ironically enough SDL can also be seen as a collaborative effort in which learners collaborate with their instructors and their peers. The role of the instructor in this setting is to develop learning models and strategies that allow learners to use them on their own (Bolhuis 1996; Corno 1992; Leal 1993).

SDL develops domain-specific knowledge as well as the ability to transfer conceptual knowledge to new situations. The related literature asserts that self-directed learners demonstrate a greater awareness of their responsibility in making learning meaningful and in monitoring themselves (Garrison 1997). They are curious and willing to try new things, view problems as challenges, desire change, and altogether enjoy learning as an activity in its own right (Taylor 1995). Taylor also found them to be motivated and persistent, independent, self-disciplined, self-confident and goal-oriented,

Although SDL is also advocated for usage during the K-12 stage of education, its present day implementation is mostly encountered within the field of adult learning: 'Andragogy' (from the Greek 'man-leading') distinguishes adult education from 'pedagogy' (child-leading) and was developed by Malcolm Knowles based upon Alexander Kapp's earlier concept.

Knowles gives several reasons to foster self-directed learning: First, he argues that there is convincing evidence that proactive learners learn more and learn better than reactive learners who sit at the feet of teachers passively waiting to be taught. *"They enter into learning more purposefully and with greater motivation. They also tend to retain and make use of what they learn better and longer than do the reactive learners"* (Knowles 1975: 14). Second is that self-directed learning is more in tune with our natural processes of psychological development: *"An essential aspect of maturing is developing the ability to take increasing responsibility for our own lives – to become increasingly self-directed"* (1975: 15). To Knowles's reasons, that were formulated in 1975, can be added yet another one that is

increasingly coming to the fore under the light of current telematic information systems which are putting unprecedentedly large amounts of knowledge at our disposal: Because of this influx it is no longer realistic to define the purpose of education as transmitting what is known. Instead, the main purpose of education must now be to develop the skills of inquiry that are needed in the face of the ever-increasing body of knowledge that humanity is diligently disseminating online at ever-increasing speeds.

An estimated 70 percent of adult learning world-wide appears to be self-directed (Cross 1981), and in North America about 90 percent of all adults conduct at least one such self-directed learning project per year, and more typically engage in five of them, spending an average of 100 hours on each project (Tough 1978) in order to gain new skills, knowledge, and attitudes to improve their work performances. Others conduct their self-directed activities to improve family life and health, enjoy the arts and physical recreation, participate in a hobby, or simply to increase their intellectual capital. Despite these remarkably high figures however, it has to be added that research in this area also shows that some adults are incapable of engaging in self-directed learning because they lack independence, confidence, or resources. Not all adults prefer the self-directed option, and even adults who practice self-directed learning often engage in more formal educational experiences such as teacher-directed courses as well (Brookfield 1985).

Self-directed learning has been described as a process *"in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes"* (Knowles 1975: 18). Whether or not learning is self-directed depends not on the subject matter to be learned or on the instructional methods used. Instead, self-directedness depends on who is in charge – who decides what should be learned, who should learn it, what methods and resources should be used, and how the success of the effort should be measured. To the

extent that the learner makes those decisions, the learning is generally considered to be self-directed. Within an institutional context only degrees of self-directedness seem to actually be possible, given the frequent necessity of maintaining institutional standards when it comes to formulating learning outcomes and objectives.

**Goals, Activity, Learning**

Although Knowles formalized a linear model on how self-learning could be implemented through 5 consecutive steps that relied upon a rational progression, his approach is held to be problematic by subsequent researchers in this domain who found that adults do not necessarily follow a defined set of steps; but instead seem to be far more in the hands of chance and circumstances in which encounters and events trigger learning experiences. This is also often associated with a change in life conditions such as retirement, child care, death of a close relative etc. Therefore in most cases environmental changes provide the incentive for learning, and the way in which this is approached is dictated by these circumstances. Beyond this, Spear and Mocker (1984, 1988, quoted in Merriam and Caffarella 1991: 46-8) found that *"self-directed learners, rather than pre-planning their learning projects, tend to spontaneously select a course from the available alternatives which occur in their environments and which tend to structure their learning projects."* Thus self-directed learning seems to become possible, when certain things cluster together to form the stimulus and the opportunity for reflection and exploration (Merriam and Caffarella 1991: 46).

One of the key problems in Knowles's model is the emphasis that he puts on formulating goals; in other words knowing what the desired outcomes are before setting out on the project. This does not fit with the reality of what we know of informal education in which much of the learning may initially appear to be incidental, although it may not necessarily be accidental: Specific goals may not be clear at any one time either to the educator or to the learner, and yet the process may be a deliberate search for knowledge, skills and attitudes

even though such purpose and intent may not always be defined by closely specified goals (Brookfield 1983: 15). This may also relate to the work of Cyril Houle (1961) who argues that there are mainly three groups of adults who continue to learn; of which only the first group seems to have pre-defined goals at the onset:

- Goal-orientated – those who use education as a means of accomplishing fairly clear cut objectives.
- Activity-orientated – those who take part in such activities because of an attraction in the circumstances of learning rather than in the content or announced purpose.
- Learning-orientated – those that seem to seek knowledge for its own sake.

It would thus appear that a proposal for any self-directed learning strategy would be impelled to clearly delineate its boundaries and deliverables when it comes to fulfilling the goals and expectations of its user groups. In terms of this model what is proposed is not the setting up of an art learning system that will endow its participants with clear cut knowledge and skills which are the virtual counterparts of the learning content that can be found in physical art instiutions. Yet another important distinction is that that 'process' should be placed over 'output,' that the journey itself is what should be emphasized and be prominent in creative activity. As such, it is doubtful whether ground<c> will be of much appeal to individuals who are goal oriented and in pursuit of clear cut objectives that can be utilized to further their careers in the creative fields. Instead, the expectation is that the users of the model will belong to the two latter groups in Houle's list: Persons who wish to embark upon the adventure for its own sake, simply for the enjoyment of the activities involved or for the joy of learning itself.

**The Autonomous Self and the Social Environment**

Further considerations also come to the fore with the concept of the 'self' and of 'self-reflection' in regards to autonomous learning since the 'self' cannot be easily divorced from the socio-cultural conventions and restrictions that surround it:

> *"Who we are and how we decide what is important for us to be able to know or do are questions that are questions of culture. The self in a self-directed learning project is not an autonomous, innocent self, contentedly floating free from cultural influences. It has not sprung fully formed out of a political vacuum. It is, rather, an embedded self, a self whose instincts, values, needs and beliefs have been shaped by the surrounding culture."* (Brookfield 1994)

To be autonomous requires that people have a developed self, to which their actions can be ascribed. *"In turn this requires a consciousness of oneself as a being who acts for reasons, whose behavior can be explained by reference to one's own goals and purposes"* (Lindley 1986: 6). A second dimension of autonomy requires freedom from external constraints; that is to say, an autonomous person is someone who is not manipulated by others. However, autonomy on its own is not enough to get around the problems of reconciling self to society. Therefore a problem that has to be taken on board in the design of self-directed learning systems is that individuals exist within groups. In this sense no project can be wholly self-directed, always having to take into account the dynamics of the context in which it takes place – as was proclaimed close to a century ago by Eduard Lindeman, one of the earliest proponents of adult education:

> *"Freedom can never be absolute. None of us is self-determined. Self is relative to other selves and to the inclusive environment. We live in freedom when we are conscious of a degree of self-direction proportionate to our capacities."* (Lindeman 1926: 50)

This puts under scrutiny the approach that defines self-directed learning as a range of techniques that can be utilized by anyone regardless of social, moral or political dimensions. Education, as Dewey puts it, is a moral craft (1916). In this respect then, any discussion of

self-directed learning has to consider the well being of not just the individual but of the group as a whole.

**'The Reflective Practitioner'**

A noteworthy body of work that looks at self-directed learning from the vantage point of dynamic relationships comes from Donald Schön who takes as his starting point the loss of the stable state in all contemporary institutions, including business enterprises. Belief in the stable state, he suggests, is belief in *"the unchangeability, the constancy of the central aspects of our lives, or belief that we can attain such constancy"* (Schön 1973: 9). Unsurprisingly, institutions are characterized by dynamic conservatism that shows a tendency to fight to remain the same (1973: 30). However, with technical change continuing exponentially its pervasiveness is *"uniquely threatening to such a stable state"* (1973, 26). From this state of affairs Schön then proceeds to build his theory of self-directed learning which is based upon the premise that the loss of the stable state means that institutions are in continuous processes of transformation and that we cannot reasonably expect new stable states that will endure for our entire lifetimes. Consequently, individuals within instiutions – and particularly those within exceptionally dynamic ones such as businesses – are increasingly called to rely upon self motivated learning strategies that allow for enough flexibility to fit the ever changing conditions imposed upon them by their work environments.

Following from this, we must learn to understand, guide, influence and manage these transformations. In other words, we must become adept at learning. We must become able not only to transform our institutions in response to changing situations and requirements; we must invent and develop institutions that are 'learning systems,' that is to say, systems capable of bringing about their own continuing transformation. Schön argues that social systems must learn to become capable of transforming themselves without intolerable

disruption. In this 'dynamic conservatism' has an important place since a learning system should be one in which dynamic conservatism operates at such a level and in such a way as to permit change of state without intolerable threat to the essential functions the system fulfils for the self. *"Our systems need to maintain their identity, and their ability to support the self-identity of those who belong to them, but they must at the same time be capable of transforming themselves." (1973: 57)*

Two key themes arise out of Schön's discussion of businesses as learning systems: The emergence of functional systems as the units around which institutions define themselves; and the decline of centre-periphery models of institutional activity (1973: 168). In these non-stable systems the unit of innovation is a functional component in which the pattern of diffusion is systems transformation. Furthermore, these environments have shifting centers and ad hoc leaderships that emit evolving messages which do not show a pattern of replication of a central message, instead working through feedback loops that operate locally as well as universally throughout the system's network.

In all of this the significance of networks, of flexibility, feedback and organizational transformation can be observed while at the same time recognizing that the ways of knowing offered by the dominant rational/experimental model are severely limited in drastic situations of change, such as the ones described by Schön. The opportunity for learning, Schön suggests, is primarily discovered in systems at the periphery, *"not in the nexus of official policies at the centre"* (1973: 165). He continues that *"the movement of learning is as much from periphery to periphery, or from periphery to centre, as it is from centre to periphery."*

Schön's great contribution is to bring 'reflection' into the centre of an understanding of how professionals operate, thereby formulating a methodology of self-directed learning that his involvement in jazz inspired him to weave into a system of improvisation and 'thinking on

one's feet,' which suggest that we can think about what we are doing as we do it – on the hoof, so to speak: Through the feedback loops of experience, learning and practice, we can become 'reflective practitioners.'

Schön is against 'technical-rationality' as the grounding of professional knowledge since this is *"the dominant paradigm which has failed to resolve the dilemma of rigor versus relevance confronting professionals."* Instead Schön looks to an alternative epistemology *"in which the knowledge inherent in practice is be understood as artful doing"* (Usher at al 1997: 143). Just as important however, is 'considered reflection' that takes place away from the press of immediate action when we pause and take stock of our previous thoughts and actions during the unfolding of an already lived through experience. Reflection involves taking the unprocessed, raw material of experience and engaging with it as a way to make sense of what has occurred; often through analyzing messy and confused events and focusing on the thoughts and emotions that accompany them. Reflection can be undertaken as an informal personal activity for its own sake or as part of a structured course. A vital attribute of all effective practitioners, according to Schön, is that they are able to reflect on their ongoing experience and learn from it through an approach which he calls 'reflection-in-action.'

According to Schön when something happens as expected, we do not tend to dwell on it too much; it is only when something happens which surprises us, or does not happen in the anticipated way, that we will reflect on the occurrence. Such reflection can happen very quickly or over an extended period of time. This might relate to various aspects of practice, but Schön suggests that it *"is central to the art through which practitioners sometimes cope with the troublesome divergent situations of practice.*" In these instances, the practitioner will act experimentally in order to solve the problem. *"He reflects on the phenomena before him, and on the prior understandings which have been implicit in his behavior. He carries out an experiment which serves to generate both a new understanding of the phenomena and a change in the situation"* (Schön 1983: 68).

Particularly helpful are Schön's insights on the role of the instructor within reflective self learning systems. These appear to be more in the nature of individuals who develop experiential strategies rather than of teachers who transmit pure knowledge. To elucidate his point, Schön suggests that we can learn much from how designers help others to learn to design since design in its broader sense involves complexity and synthesis. In contrast to analysts or critics, designers put things together and bring new things into being, dealing in the process with many variables and constraints, some initially known and some discovered through designing. *"Almost always, designers' moves have consequences other than those intended for them. Designers juggle variables, reconcile conflicting values, and maneuver around constraints – a process in which, although some design products may be superior to others, there are no unique right answers"* (Schön 1987: 41-42).

Instructional aptitude therefore does not depend on how much you know, but rather on how effectively you can help others to learn. As part of this, the instructor must make his thinking processes transparent to the learner, revealing that there is no single-track agenda within the process, that one may choose a course of action, only to find oneself surprised at its consequences; that both learner and instructor will adjust and maneuver to synthesize in a world of complexity. Schön sets out what these new tenets of instruction should be, and how different they are to known models of discourse between master and pupil:

> *"It is as though the studio master had said to him, 'I can tell you that there is something you need to know, and with my help you may be able to learn it. But I cannot tell you what it is in a way you can now understand. I can only arrange for you to have the right sorts of experiences for yourself. You must be willing, therefore, to have these experiences. Then you will be able to make an informed choice about whether you wish to continue. If you are unwilling to step into this new experience without knowing ahead of time what it will be like, I cannot help you.'"* (Schön 1987: 93)

The Reflective Practitioner is especially valuable to a project such as this since a substantial amount of self-learning methods for diverse purposes and learning scenarios have been successfully built upon it, both by Schön himself, as well as by educational theorists such as

David Boud (Boud 2001: 9 – 17), and David Kolb (1984) who brought together Schön's theories with Dewey's earlier work which was subsequently facilitated by Gibbs's notion of the 'reflective cycle' or 'model of reflection' shown below (Gibbs 1998).

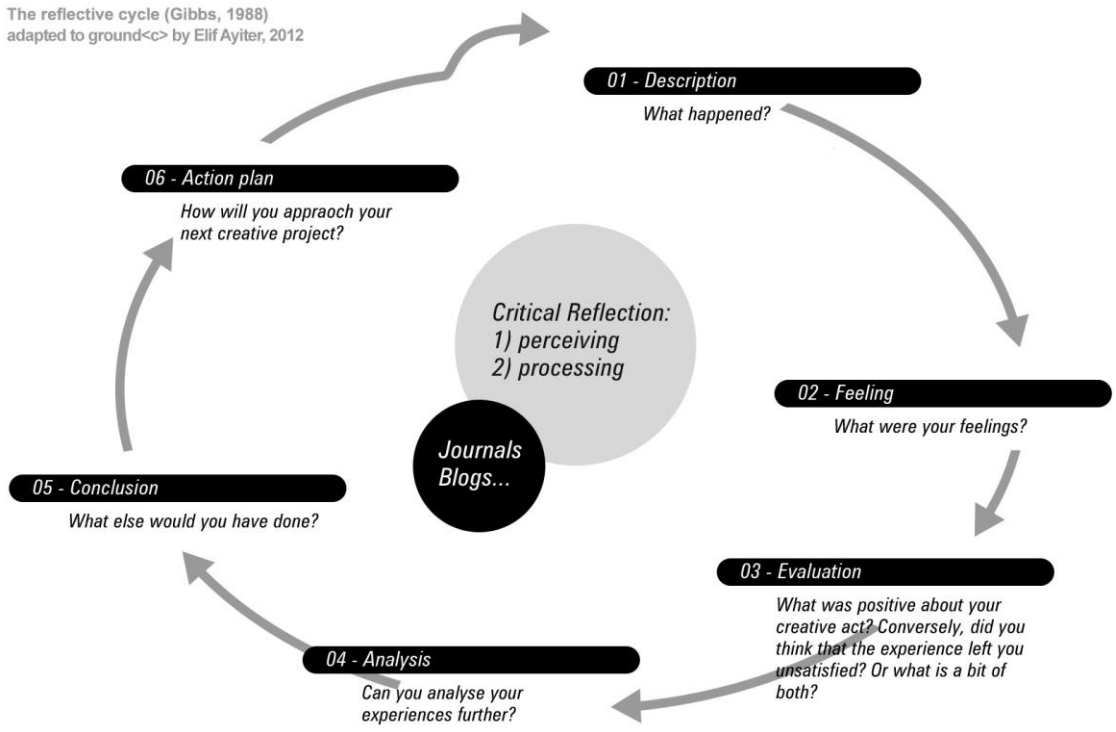


***Figure 12: "Gibbs' Reflective Cycle," adapted to ground<c>.***

## Journals, Blogs and the Reflective Practitioner

David Boud presents journal writing as a form of reflective practice; that is, as a device for working with events and experiences in order to extract meaning from them. The process of exploring how journals can assist their writers to learn is commonly described in terms of how journals can enhance reflection and reflective practice (Boud 2001: 9–17).

Since reflection involves taking the unprocessed raw material of experience and engaging with it as a way to make sense of what has occurred, putting one's reflections in a written format may indeed help in re-capturing the moment at which the experience occurred.

Furthermore reflection often involves exploring messy and confused events and focusing on the thoughts and emotions that accompany them may not be easy to accomplish when solely thinking on a mental plane and some further enhancement of the act, such as writing that is akin to a form of meditation may be called for.

As mentioned above, Schön posits that an important attribute of all proficient practitioners, no matter what area they may be operating in, is that they are able to reflect on their ongoing experience and learn from it; an approach which he calls 'reflection-in-action.' Just as important however, is the considered reflection that takes place away from the press of immediate action when we pause and take stock of what we are doing and it is into this second category that journal writing most often fits, because writing is a means of puzzling through what is happening in our work and in our personal lives.

Boud has formulated his own phases for reflective practice and these are: Reflection in the Midst of Action; Reflection After Events; Return to Experience; Attending to Feelings; and finally the Re-evaluation of Experience. It is particularly when we return to the experience or when we attempt to identify our feelings related to it that journal writing may prove to be very valuable. Boud says that expressive writing has a particular role to play in working with feelings. Journals are not just the place for writing prose. Images, sketches, poems, and the use of color and form are among devices that can be used as vehicles to express ways of experiencing. Stream-of-consciousness writing, in which words are poured out without pause for punctuation, spelling, or self-censorship, can also be of value (2001: 14).

Boud also raises some concerns in regards to whether privacy (or lack thereof) may end up becoming a deterrent to the free flow of ideas; and whether the journal's contents should be available only to its author or to a larger public, particularly co-learners and instructors.

Blogs are in wide usage in both further education and higher education. I too have been employing blogging as an instructional device for several years, in different classes with

varied learning content. While in some of my classes blogs are used solely as research devices (that is, to gather and collate information on design strategies and the like); yet in other classes I ask my students to engage in reflective actions by writing upon their experiences as well as deliberating upon how outcomes might have varied, discussing alternative routes which they might have employed whilst completing assignments, their frustrations and their satisfaction.

Diane Eastment (2005) writes upon her experiences with blogs in language instruction, while Kaider and Bull report on the efficacy of blogs when it comes to getting very young children involved in K-12 educational material (2003). Wang et al have conducted a comprehensive overview and established that blogs seem to easily lend themselves to active knowledge construction through collaboration, debates, and argumentation; as well as providing incentive for performance improvement through the social networking mechanisms which come about through stats, 'likes,' and comments. Yet, Wang et al are also drawing attention to the fact that blogging as an educational device is not greeted with unanimous enthusiasm and that there are conflicting reports about their usage as well as their misusage in learning settings (Wang et al 2005).

These critiques duly noted, blogging is singularly well suited to the proposed model – especially so as e-learners may feel in a vacuum that cuts them off from their peers. At the concluding chapter of this thesis the intent to use both communal and personal blogging to bring about peer communication, as well as learner to instructor communication as devices that may provide means to dispel such a sense of isolation is discussed.

Differing from Boud, I understand that privacy would not be specifically sought under such conditions. Personal experience indicates that the feedback that one gets is one of the biggest motivators to write more, and more extensively – a position supported by Oravec's findings (2003: 225–233). According to Godwin-Jones reflective blogs tend to proliferate in a fashion

which can best be described as ‘no holds barred.’ This is confirmed by Godwin-Jones (2003: 12–16) who alerts us to the circumstance that bloggers typically present content as an overabundance of ‘stream of consciousness.’

Finally, in the next section on cybernetics, which examines interactions within systems that are built upon the feedback that occurs between their nodes, reflective journals which are kept as socially networked, (commented upon) blogs will vastly enhance the learning strategy in ground<c> by providing a much needed feedback loop to a self-directed learning system.

## *Cybernetics*

The reasons for wishing to discuss cybernetics as one of the building blocks of the proposed model are twofold: The first is obviously grounded in the fact that cybernetic theory was very much at the heart of the Groundcourse, the basis of the new proposal. However, even beyond Ascott’s original emphasis, cybernetic learning, as well as an understanding of second-order cybernetics should be central considerations when formulating self directed learning strategies, since concepts such as ‘observer,’ ‘observed,’ ‘feedback’ and ‘control’ appear to stand as prominent issues within all such endeavors.

Briefly returning to Ascott’s strategies before delving into a digest of cybernetic learning theories as they relate to the new model; in direct opposition to standardized art educational practices, for Ascott the examination and creation of systems and dynamic relationships takes precedence over a concern for the realization of standalone objects as artworks. Accordingly, his learning strategy is preoccupied with enabling his learners to grasp the workings of systems, and their parts and their functions within them. A list of perception exercises for first year Groundcourse students illustrate Ascott’s preoccupation in conveying to his students the importance of looking for the relations and circular influences present

between ‘states’ and ‘objects,’ rather than a mere objective examination/rendition of stand-alone ‘things’:

> *“Example 1: Imagine you wake up one morning to find that you are a sponge. Describe visually your adventures during the day. 2. List the sense data of an umbrella or a hot water bottle. Visually restructure the parts to form a new entity. Ask your neighbor to identify it. 3. If fifteen ragged criss-cross lines stand for a cough, how would you draw the BBC time signal? 4. Use only solid shapes to discuss your perception of: a bottle of ink; fish and chips; a police siren; ice hockey. 5. Show how zebras disguise themselves. 6. Invent a typewriter bird and show the kind of tree within which it could most successfully hide.”* (Ascott 2003)

However, beyond tangible output which was elicited through exercises such as the ones above, Ascott’s entire educational setup was itself structured as a system in which teachers and students became active participants who operated as informational transmission nodes. Through this approach an important focus of inquiry became the dynamic processes by which the transfer of information alters behavior at a systemic level. Thus, a unified cybernetic theory which proclaims that behavior can be automated or controlled by regulating the transfer of information within any given system was applied as an art educational strategy which aimed to deliver *“a flexible structure within which everything can find its place, and every individual his way.”* (Ascott 1964)

**Learning and Cybernetics**

According to Francis Heylighen and Cliff Joslyn (2001), cybernetics is the science that studies the abstract principles of organization in complex systems. It is concerned not so much with what systems consist of, but rather how they function; focusing on how they use information and control actions to steer towards or maintain their goals, while counteracting various disturbances. Being inherently transdisciplinary, cybernetic reasoning can be applied to understand, model and design systems of any kind – physical, technological, biological, ecological, psychological, social, or any combination of those. Second-order cybernetics in particular studies the role of the human observer in the construction of models of systems and other observers (Heylighen and Joslyn 2001: 155).

Cybernetics takes great interest in deciphering the mechanics of human learning since an understanding of this process is deemed to be essential in the building of artificially intelligent systems. Cybernetic learning theories are closely related to radical constructivism, which holds that any kind of knowledge is constructed rather than perceived through the senses. Radical constructivism was promulgated particularly by Ernst von Glasersfeld, drawing on Jean Piaget; but also further developed through discussions amongst the group of cybernetics thinkers who gathered around Heinz von Foerster in the 1960's and 1970's. Radical constructivism stands in direct contrast to the 'transmission model' of learning, where content is directly taught, and knowledge is conceived of as being a representation of an externally objective reality. Accordingly, von Glasersfeld emphasizes that observers construct 'consensual domains' within which meanings are negotiated. This concept is followed up by von Foerster in 1982 when he acknowledges that radical constructivism is itself a consensual domain, with the aim of *"explaining the observer to himself."* (Scott 2001).

Heinz von Foerster insisted that the circularity of the observer/as learner/as observer was inevitable in the learning process. This is apparent in the titles of his publications, such as 'Notes on an Epistemology for Living Things,' where the word epistemology is purposely used because to live, to inhabit an environment, is to be a de facto epistemologist. In the article which was written in celebration of the developmental psychologist and epistemologist Piaget, von Foerster exploits an understanding that form and content interrelate, in much the same way that Gregory Bateson talks of the unity of the mind and body.

Yet another interest of von Foerster's was in the involvement of the observer, the 'dance of conversation,' as he also called it; and from this comes an explicit concern for ethics: The observer is responsible for the observation, the sense he/she makes of it, and the actions he/she takes based on that sense. Since each observer is different, it is difficult to make

general ethical points, because the responsibility belongs to each particular observer. Nevertheless, there are general points to be made, such as that the act that causes an increase of opportunities is the better one because it makes it easier for each observer to claim his/her own responsibility.

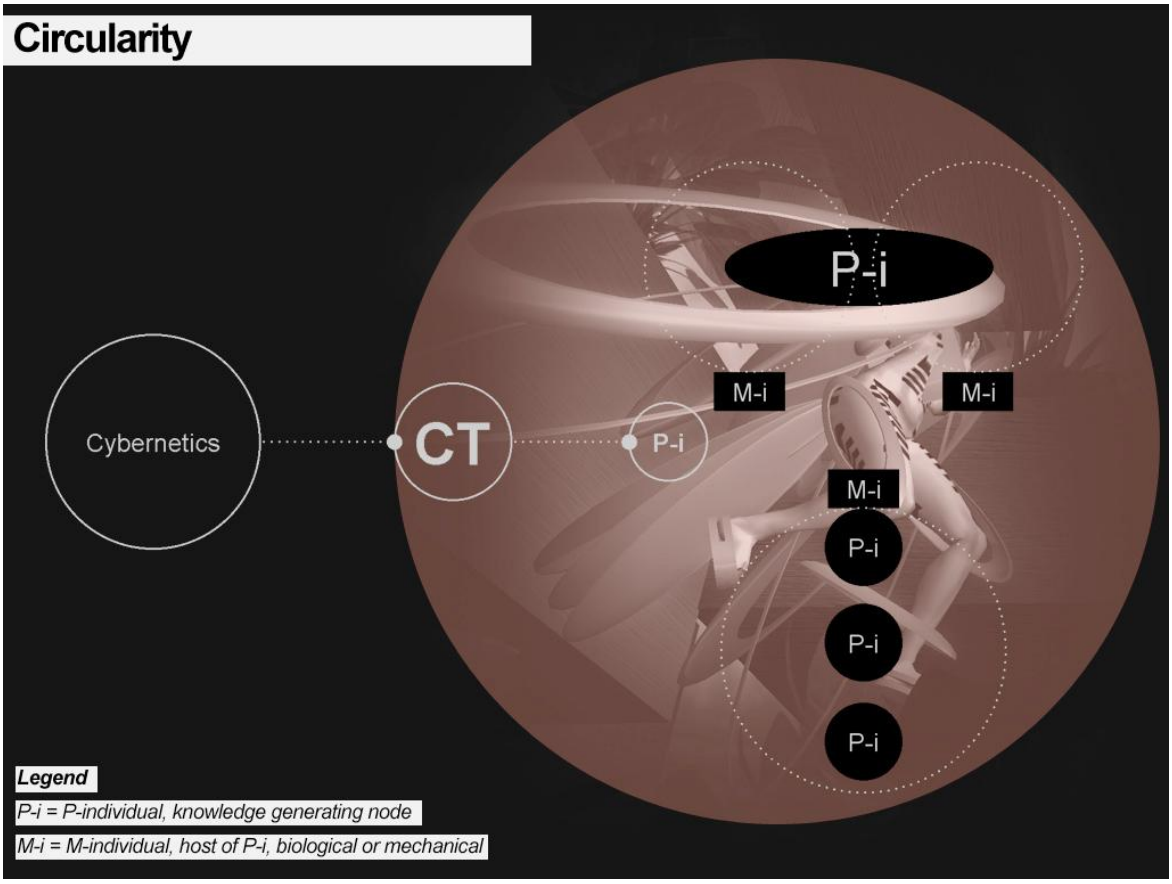


***Figure 13: "Circularity," Elif Ayiter, 2011.***

Ethics becomes a complex issue since we construct our own realities, in other words *"the environment as we perceive it is our invention."* In his seminal paper mentioned above, von Foerster takes as his abstract the initial command of Spencer Brown's 'Laws of Form': *"Draw a Distinction!"* He then describes a number of experiments, for which he also gives a neurophysiological basis. These lead to the conclusion that our realities are indeed self-constructed since the nervous system interprets cognitive workings as never ending recursive processes of computation which aim to construct 'stable realities.' This stipulates an 'autonomy,' or a 'self regulation' for every living organism that inevitably leads to the

notion of responsibility: If I am the only one who decides how I act then I am responsible for my action. However, this could also very easily lead to a solipsistic view which declares that the world is only in my imagination and the only reality is the imagining 'I.' However, von Foerster points out that our imaginary universe is populated with apparitions that are not unlike ourselves and that these apparitions may well insist that they are the sole reality and everything else is only a concoction of their imagination, which in their turn are populated with apparitions, one of which may be 'me.' Thus the solipsistic claim falls to pieces when besides 'me' I invent another autonomous organism:

> *"However, it should be noted that since the Principle of Relativity is not a logical necessity, nor is it a proposition that can be proven to be either true or false, the crucial point to be recognized here is that I am free to choose either to adopt this principle or to reject it. If I reject it, I am the centre of the universe, my reality are my dreams and my nightmares, my language is monologue, and my logic mono-logic. If I adopt it, neither me nor the other can be the centre of the universe. As in the heliocentric system, there must be a third that is the central reference. It is the relation between Thou and I, and this relation is IDENTITY:*
>
> *Reality = Community*
>
> *What are the consequences of all this in ethics and aesthetics?*
>
> *The Ethical Imperative: Act always so as to increase the number of choices.*
>
> *The Aesthetical Imperative: If you desire to see, learn how to act."*
> (von Foerster 1973)

One of von Foerster's interest which is also related to the mechanics of learning, concerns how we might compute stable realities, which he called 'objects,' through recursive observation; that is, perpetually re-distinguishing the distinction. To this end he proposed the term 'eigenbehavior' (Rocha 1996), through which a system asserts its autonomy from other systems and that, applied recursively, reaches stable and dynamically self-perpetuating states, a process that can be traced back to von Foerster's earlier proposals on the workings of memory.

Social scientists have found in von Foerster's interest in recursion the concepts that allow for theoretical development within their own fields of study. The adaptability of cybernetic (and

particularly second order cybernetic) reasoning to diverse fields of study should be expected to come into particular prominence within the creative fields, where self-reflection, self-awareness, the ability to self-learn and to change; the circular properties of the observer and the observed, the awareness that we are ultimately responsible for our own observations and the realities that we construct out of them would surely have to be amongst the primary considerations of artistic activity and learning as well as activity and learning in engineering fields.

**P-individuals/M-Individuals**

Within cybernetic learning theories Gordon Pask's approach is particularly attractive in that in it there is a potential for working with the multiple 'self,' personified as 'me, myself, and I,' as the avatar actors of learning: In his Conversation Theory the individual learner is re-understood as a collection of psychological individuals or as a collection of rules.

Pask developed a theory of learning in which learner and teacher can be said to be 'in conversation' with one another. Beyond this, the model may also be interpreted as showing two peers in conversation – exchanging, justifying and demonstrating theories and their associated models and procedures. According to Scott (2001: 343 - 360) the model may also be interpreted for accounts of the genesis of personhood: The distinguishing aspect of Conversation Theory is that Pask chooses to differentiate between the 'biological' or 'bio-mechanical' and the 'psychological' or 'conceptual.' As well as the individuality of biological organisms as self-producing, autopoietic, cybernetic 'machines,' Pask distinguishes the individuality of conceptual systems, processes of knowing and coming to know, that are coherent, self-producing and, hence 'organizationally closed.' Pask refers to such systems as psychological (p-) individuals.

> *For Pask, 'consciousness' is a property of a p-individual, a system that potentially may 'know with itself' that it is a system. It is not a property of a 'mechanical individual' (m-individual). The participants in a conversation are p-individuals. The*

*conversation is itself a p-individual. Do note the power of the distinction: m and p-individuals are not necessarily in one to one correspondence. One 'm' may house several 'p's'; one 'p' may be housed by several 'm's.'"* (Scott 2001)

Thus, Pask distinguishes psychological and conceptual systems from the bio-mechanical ones as incorporating processes of knowing and of coming to know. These are *"productive operators which may be applied to entities belonging to a domain, or substrate, and which, if so applied, yield products. Among these products can also be products that are the productive operators themselves."* (Pask, quoted by Zeeuw 2001). Such systems, according to Pask, are coherent, self-producing and, hence 'organizationally closed,' with a potentiality to 'know by themselves,' akin to Hofstadter's meme-complexes[22]. Pask calls these entities P-individuals.

While P-individuals may operate distributed over numerous biological or mechanical domains, which are referred to as M-individuals, there can also be several P-individuals operating within one M-individual. Thus, Pask asserts that what it is we are mainly helping to educate/self-construct is not simply one person but rather a wide variety of interwoven competitive P-individuals, some of whom may execute in distributed fashion across many bodies and machines (Boyd 2004). According to Pask, the P-individuals that develop while conversing with the same conversation partner need not remain the same, that is include the same sets of concepts or language. Furthermore, the conversation itself may be the topic of conversation, in which case process and production are then heterarchical, with no fixed ordering levels of control. Students can eventually differ in terms of what they learn and even in terms of having different conversational styles or styles of learning. The teacher may also come to embody a number of P-individuals, each developed separately in conversation with students (Zeuw 2001).

When we learn, we are said to acquire 'knowledge.' In Conversation Theory, as is also the case in radical constructivist theory, 'having knowledge' is understood as a process of

*22 Meme-complexes definition: http://pespmc1.vub.ac.be/MEMLEX.html*

knowing and coming to know, that involves substantially more than a mere storage of representations. Consequently, Conversation Theory makes considerable use of the Aristotelian distinction between 'knowing why' and 'knowing how.' In the 'why' cycle, new knowledge is integrated with existing knowledge to form a coherent whole, brought about through a conversation between the P-individuals. In the 'how' cycle, new methods are constructed and tried out and are subjected to pragmatic correction (Scott 2001: 343 - 360). According to Pask the 'why' cycle involves comprehension, whereas the 'how' cycle involves learning through operation; both being complementary aspects of effective learning that allow Pask to give a formal definition of what it means to understand a topic. For Pask, understanding a topic means that a learner can 'teach-back' the topic, by providing both non-verbal demonstrations as well as verbal explanations related to both 'how' and 'why.'

Pask notes that conversations may have many levels of coordination above a basic 'why' level at which there is 'commentary about commentary.' Sheila Harri-Augstein and Laurie Thomas (1991) have made this notion central to their work on self-organized learning, where the emphasis is on helping students 'learn-how-to-learn.' They propose that a full 'learning conversation' has three main components:

- conversation on the how and why of a topic, as in the basic Paskian model;
- conversation on the how of learning;
- conversation on purpose – the why of learning in which the emphasis is on personal autonomy and accepting responsibility for one's own learning.

Pask also developed models of the structure of knowledge in which the basic idea is that a subject consists of topics related to one another. Two basic forms of relations between topics are distinguished: entailment relations (hierarchical) and relations of analogy (heterarchical). A static representation of such relations is called an entailment structure that reveals the

‘why’ of knowledge, creating a structure which relates topics to one another. This basic entailment structure may be elaborated upon by analyzing topics further in order to reveal sub-topics (Pask’s term for such an analysis of a topic is ‘unzipping’). Also topics may be explained in terms of each other: If an entailment structure shows that topic A can be explained in terms of topics B and C; then, in principle, topic B can be explained in terms of topics A and C, and topic C can be explained in terms of topics A and B. If these local cycles are added to an entailment structure, the resulting form is what Pask refers to as an ‘entailment mesh.’

There appears to be a clearly drawn distinction between instruction/teaching and learning which Pask drew upon as he developed his computer aided learning system (CAL), that was based upon self-learning. (Subsequent developments in CAL transmogrified it, at the hands of others, into computer aided teaching or instruction – a thing as far removed from Pask’s original intentions as could be possibly be imagined).

Pask’s work extended beyond the mechanism for exchanging and testing individual understandings to an actual analysis of the structural properties of the subject matter to be learnt, examining different ways of looking at what is to be learnt that led to an emphasis of diverse learning styles, depending upon content. His primary interest was in the learner, and Pask came to hold not knowledge but knowing as the cardinal issue. This consideration of the verb rather than the noun has similarities to the consideration of the ‘process of living’ rather than the fact of ‘life,’ characterizing an autopoietic system (Glanville 2002), as is previously implicit in his concept of an organizationally closed system of learning that has a potentiality of knowing by itself/from itself.

Pask defined the human being as a ‘machine for learning.’ His investigations into the machinery of human learning were directed into the development of teaching machines, seeking computational means of offering learning content to students. With this variance in

approach, aims and results duly noted, Conversation Theory may be adapted to ground<c> in that it essentially relates to a process of autonomous learning. Heylighen notes that a befitting domain for the application of complex problem solving paradigms is education which has reached levels of complexity that require life-long, self-instigated learning systems, saying that *"we must stimulate autonomous learning, i.e. without supervision by teachers. Hence we must develop systems or schemes which help persons to structure these complex problem domains"* (Heylighen 1990: 11).

**Interaction of Actors**

While Conversation Theory brings to the fore the all important interactions between P-individuals and M-individuals, Pask also worked on a second theory called the Interaction of Actors theory, which in essence denotes a never ending conversation conducted by a self-observant, self-organizing system, also incorporating Pask's famous last theorem *"like concepts repel, unlike concepts attract."* This second theory brought forth *"a kinetic rather than a kinematic system in which the beginnings and the endings of the concepts of Conversation Theory had been replaced by eternal, evolving kinetic interactions between organizationally closed and informationally open concept loops, comprised of toruses that maintain a boundary, a distinction"* (Green 2003).

Pask held the view that *"there is not one iota of fundamental difference between art, philosophy and science, provided they are all conducted with an appropriate degree of delicacy and integrity."* Interaction of Actors Theory emerged from his observations of performance artists where he came *"to realize that it is possible to couple people together with multiple mode oscillators, responsive to and regulating music, performers, lights and motions, provided the people are participants"* (2003); in other words bringing about a state in which production and usage merge into the same act. Thus, what Pask picked up on was that whereas scientists tend to force all achievements which are not directly observational

into the same mould; individuals in different walks of life appear to be able to occasionally step out of their prescribed roles in order to reclassify the observations they first classified for other purposes.

In the Interaction of Actors Theory the emphasis is placed upon the M-Individual: This allows new P-individuals to develop to co-ordinate the activities of the M-individuals in which they are embedded, and also replaces the need to assume a preferred P-individual (the choice of what is to be taught) to which other learners have to adapt.

Some of the work in non-zero sum games tends to go in the same direction, in particular the work by Axelrod (1984) on the Prisoners' Dilemma. It assumes two P-individuals (each having two alternatives to achieve a gain), embodied by two M-individuals. If both try to maximize their gain individually, the result will be less than if they try to do so together. The theory can be exemplified by assuming two M-individuals, each embodying a P-individual, the values of which are realized while their two actions interact. This implies a process in which the P-individuals can change but cannot disengage since they become part of a collective P-individual, co-coordinating the actions of the participating M-individuals. Since it cannot disengage, this P-individual may become sufficiently stable for the M-individuals to become capable of realizing a collective action, which implements a novel collective value. Secondly, coordination of the activities of the M-individuals implies a change in the values or perspectives of the original P-individuals. Third, each value is maintained in and through the new collective, characterized by its coordination, as well as by the properties it ultimately makes visible/observable (Zeeuw 2001).

In his 2003 paper Nick Green gives a list of the axioms of Interaction of Actors theory which include human attributes such as 'responsible,' 'respectable,' 'amity,' 'unity – not uniformity!,' 'purpose' and 'faith;' 'agreement' as well as 'agreement to disagree.' Together with these, terms which relate to universal systems such as 'adaptation,' 'evolution,'

‘generation,’ ‘eternally interacting,’ ‘conservation of meaningful information transfer’ and ‘informational openness and organizational closure’ are also found. Further axioms are grounded in opposites: ‘Void and not void,’ ‘similarity and difference’ and ‘beginnings and ends.’ This choice of words seems to point at a concern for maximizing applicability to the soft sciences. Therefore the aim is to be able to make statements about interacting people which are equivalent in robustness to those of conventional physical science, with no implied order of priority. Instead, they exist concurrently as restrictions on the behavior of all participants in their interactions – be they human beings, strings, sub-atomic particles, atoms, molecules, plasmas, gases, liquids, solids, plants or animals.

While Green explains the meanings and relevance of all of the Paskian axioms, in the following quote a few of them are extracted in order to exemplify the overall reasoning behind the choice of terminology:

> *“Faith is a property of the duration of an assertion and persists until a contradictory counter example is found; … while Responsible and Respectable stand in for classical and quantum observability and controllability. A respectable Actor is classically observable, can be heard, seen etc. A potentially responsible Actor may require excitation or heating to fulfill a Heisenberg condition of respectability or observability. More usually excitation is needed to produce some desirable characteristic response.*
>
> *Unity without uniformity can be interpreted as an expression of identity, wherein distinct parts cohere persistently. It is thus also an expression of Purpose. Purpose is the convergent or perceived outcome of a process; it may be another word for product. Nevertheless purpose, the product of a difference in a control or metasystem, is important in the emergence of cybernetics and a key to its interdisciplinary success.”* (Green 2003: 1445-1446)

Although the theory has its origins in Conversation Theory, which is primarily concerned with learning processes, Interaction of Actors theory was applied to various other domains, as would indeed befit a cybernetic approach which holds that the same principles of information transfer can be applied to all dynamic systems, be they biological, mechanical, or social.

Since the Interaction of Actors theory remained incomplete due to Pask's untimely death, many aspects of it are hard to unravel. Nonetheless, it has a foundation which can be used for a systemic analysis of art works that have arisen out of collective processes, undertaken by numerous M-Individuals, each endowed with their own discrete P-Individuals who may undergo changes, however cannot become disengaged for as long as the M-Individuals choose to continue to interact with one another. Gerard de Zeeuw and Nick Green were close collaborators of Pask's while Interaction of Actors theory was being formalized. Their texts point to a search for a collective consciousness, or a common field of consciousness located between individuals, and/or entities such as meme complexes, who engage upon collective work and who use such a stratum as a conversational device through which knowledge, meaning and insight can be garnered and self-organization be obtained. Such observations can then be used, not only to examine the output itself but also, and more importantly, to reflect upon the actual processes through which this output has been derived.

**A self-observing system**

A second order cybernetic system is one which presents an exemplar in which the observer is circularly and intimately involved with/connected to the observed: The observer is no longer neutral and detached, and what is considered is not the observed, as is the case in the classical standard, but the observing system. The aim of attaining traditional objectivity is either abandoned/passed over, or what objectivity is and how we might obtain and value it is reconsidered. In this sense, every observation is autobiographical. Therefore, second order cybernetics must primarily be considered through the first person and with active verbs. The observer's inevitable presence should be acknowledged, and should be written about in the first person, not the third, giving us an insight into who these observers are (Glanville, 2002).

The feedback loop of such a system relies upon recursive observations which affect outcome through the input of the observation itself, potentially resulting in autopoietic constructs which grow and maintain themselves purely by referencing back to themselves:

> *"The autonomy in living systems is a feature of self-production (autopoiesis). The basic consequence of the autopoietic organization is that everything that takes place in an autopoietic system is subordinated to the realization of its autopoiesis, otherwise it disintegrates."* (Maturana 1998)

A challenging aspect of placing the observer as an intervening agent is the unpredictability of the outcome and an element of obscurity as to how this outcome may have actually materialized. In this there is a strong correlation between second order cybernetics and quantum physics. The Uncertainty Principle states that it is impossible to determine simultaneously both the position and the momentum of an electron or any other particle with any great degree of accuracy or certainty. This is not a statement about the scientist's ability to measure the quantities, but rather, it is a statement about the system itself, giving rise to an acknowledgment of the 'observer effect' and indeed a query into the nature of 'local realism' itself in theoretical physics (Norsen, 2006).

Second order cybernetics works through a 'Deus Ex Machina,' materializing as the conceptual 'Black Box' originally utilized by James Clerk Maxwell (Benthien, 2009) whilst mathematically formulating the laws of electro-magnetic fields of Michael Faraday. Such a conceptual device allows us to operate while remaining essentially ignorant of the underlying reasoning which drives the feedback loops of the observed system which we are also a part of. The principle of the Black Box is that, where we observe some change in a behavior for which we cannot find a logical reason, we insert a metaphorical Black Box into the feedback loop. This allows us to interpret the change as the result of the operation of an invisible mechanism, held within the Box itself, which is giving rise to the unexpected output. Through this the observer develops a description that accounts for the transformations that are seen in the output and that cannot be accounted for through tangible

input data alone. The explanation is a result of the interaction between the observer and his inventive insertion, the Black Box, which ‘opens’ up the Black Box even if this ‘opening’ is excluded by definition since we cannot know the cause: We have no means of looking inside the Black Box and, therefore, cannot in actuality observe the causal elements that it may (or may not) hold. The Black Box was annexed to cybernetics by W. Ross Ashby, in his 1956 ‘Introduction to Cybernetics,’ where he uses the Black Box artifice to permit the observer to construct descriptions of the behaviors of systems that cannot be accomplished without such a concept. Ashby went so far as to suggest that the Black Box might not be just a useful device, but a universal metaphor, claiming that we never really see what is causing a change, only some explanatory principle we take to be a mechanism.

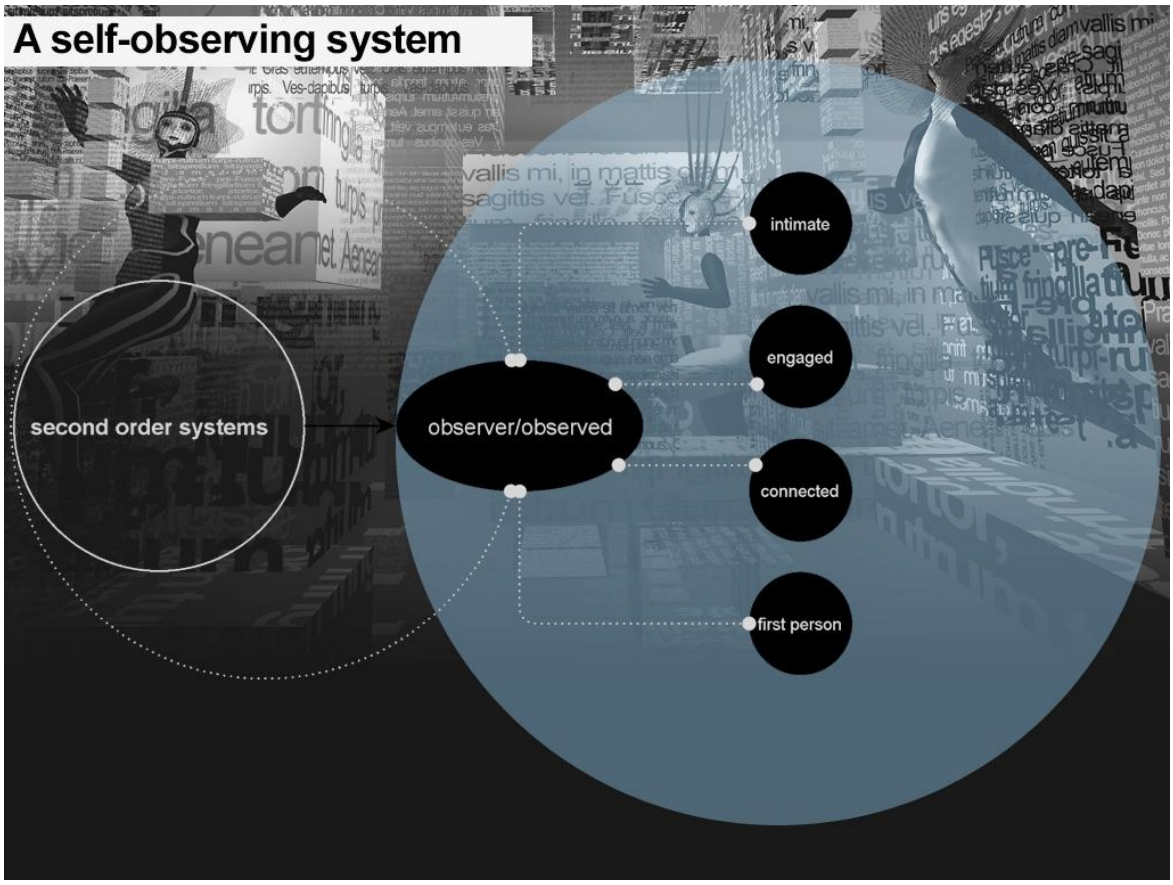


***Figure 14: “A self-observing system 2,” Elif Ayiter, 2011.***

Coming back to art education we find that Ascott provides us with a tangible case study of the principles of second order cybernetics applied to a learning system – although it should

be emphasized that he would not have defined it as such at that time since second order cybernetics was yet to be theorized by von Foerster in the mid 1970s, almost a decade after the Groundcourse years. Nevertheless, through the self-observational components found in his previously discussed assignments it is easy to see that Ascott's art educational theory extends into second order cybernetics. Ascott (who himself was a participating observer, enmeshed in all of the feedback loops of the system which he himself had engaged in to bring about) could not have known what the underlying dynamics of exchange developing in these feedback loops were or indeed what their outcome would ultimately be. In the event however, his emphasis on the importance of self-observation as an integral part of a creative learning strategy brought forth some remarkable output, especially through the mindmaps and calibrators with which his students were asked to monitor their emotional as well as intellectual responses to the occurrences that they were caught up in.

A conservative mindset may well argue that an approach relying upon the unpredictability of a 'Deux Ex Machina' residing at the heart of a learning system would be cavalier – indeed especially so today, given the prevalent ideologies found in the contemporary educational milieu: A world in which institutions are rigorously monitoring learning outcomes, where the primary concern is on applying the strictest standards and measurements on one of the most intangible and least understood of curiosities – the human mind. While such a conservative approach can be seen to be problematic in all areas of learning it may be especially of concern in the creative fields since output in these fields is acceleratedly open to the elements of the unknown and the unpredictable, to debate and discourse through its very nature. Ascott's strategy thus may be unique in its acceptance of the immaterially intangible, indeed inexplicable, mental processes embedded within the creative process.

## *Roy Ascott's Cybernetic Art Matrix and William Doll's Biological Paradigm*

Danto's observations regarding demographics discussed in the previous chapter were already forecast by Ascott, who in as early as 1966 alerted his readers to the emergence of *"a new, leisured class"* that would be involved in creative pursuits, furthermore a class which fell outside of the boundaries of traditional art educational practice. Current creative participation and sharing via web 2.0 domains seems to abundantly validate the early claims of Ascott, who structured his learning system as a fluid, symbiotic construct within which such diverse learner groups could be accommodated.

Such a domain will ideally be modeled on premises that are *"provisional and general, rather than absolute and specific"* and occur *"spontaneously and biologically"* (Ascott 2004: 134); evolving into networks consisting of nodes and hubs of creative/learning activity which will configure themselves to initiate new lines of thought and experiment, becoming catalysts to action and change. The workings of just such an environment are explained in clear detail by Ascott as the Cybernetic Art Matrix (CAM).

However, the identification of an emergent group of creative individuals is not the only commonality that can be observed between Ascott's and Danto's ideas. Like Danto, Ascott points at a (positively) anarchic state in contemporary art, and again just like Danto, he is heartened by the present transitional period in which interaction between artists is free and not constrained by aesthetic canons or political directives; and in which the diversity of images, structures, and ideas is far greater than at any other period in history. However, unlike Danto, Ascott demonstrates that contemporary art is fundamentally of a piece, that there is unity in its diversity, and that the quality that unifies it is in distinct contrast to the essential nature of the art that went before it. This he describes as 'behavioral,' creating a state in which *"the artist, the artifact, and the spectator are all involved in a behavioral*

*context whereby one finds an insistence on polemic, formal ambiguity and instability, uncertainty, and room for change in the images and forms of modern art"* (Ascott 2003: 109-111).

**The Cybernetic Art Matrix**

In 1966 Ascott envisioned and wrote about a framework for manifold creative purposes, an important one of which was art education. Within this model, which he called The Cybernetic Art Matrix, Ascott places his full time students (T3) in a learning environment in which they are also given the opportunity to interact with professional artists (T1), who are another user group for which CAM is envisioned to provide for. The third user group (T2) however, consists of the selfsame new leisured class that has already been introduced above and the lifestyles of whom will hold an intrinsic connection with *"exploratory creative play"* (2003: 143). This lifestyle will be a considerable motivator for artistic activity and learning in the creative fields as well as *"a growing need for amenities that provide for social and intimate participation in creative activities of new and stimulating kinds"* (Ascott 2003: 133).

The interaction of these three variables – professional artists (T1), a new leisured class (T2), and the full time student (T3), is seen as an integral part of the system since the unique experiences, knowledge, and skills of individuals from all three groups will feed in to enrich the general awareness of the entire organism. From this it easily follows that CAM is founded upon a design that ultimately brings about a self-organizing entity.

The learning factor of the Cybernetic Art Matrix (CAM/L) is seen as a highly adaptive and complex environmental teaching machine, an organism the state of which at any time is determined by the interaction of variables: One of the founding principles of the CAM is that learning procedures are to be available to every type of individual passing through the matrix and therefore the system is required to accommodate the learning needs of large and varied

groups, comprised of unique individuals with unique demands who are free to choose to identify themselves with any type and to shift from one type to another as their general needs change over time. Furthermore, unlike traditional education, such movement between input types should not be irreversible, allowing learners to freely move back and forth between T1, T2, and T3. Beyond this inherent fluidity the paths of each individual learner through CAM/L is envisioned as a branching, rather than as a linear progression, with branches intersecting or converging at different times and in ever changing configurations, providing for a rich mixing of personalities which can be expected to produce ideas for new directions, displaying properties of organic growth.

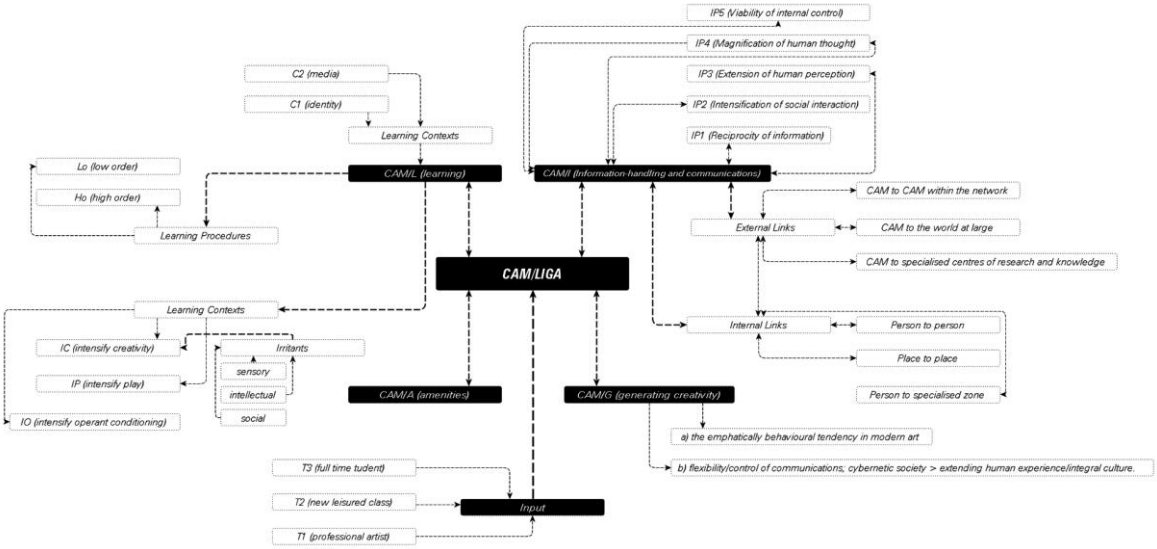


***Figure 15: "Roy Ascott's The Cybernetic Art Matrix."***[23]

Ergo, the total learning environment is envisioned as an organism that adapts itself to the changing needs of the individuals who are active in it; resulting in systemic behavior that is diametrically opposed to the workings of hierarchical pedagogical structures which disseminate learning to students whose activities are limited to an intake of rigidly fixed, pre-determined content.

*23 The diagram has been reconstructed based upon Roy Ascott's description. (2003: 133-150)*

**William Doll's Biological Paradigm**

Drawing upon a scientific paradigm, William Doll (1989) argues that the post-modern curriculum has a character that can also be explained in biological terms, as an open system in which continual accommodation and adaptation occur through a complex structure in which change comes about not as the result of being fed information, but rather from developing and organizing one's own program in which content cannot be conceived of as just a bit of new information that can be added to the old. *"Rather, existing concepts as the basis for perception become transformed through experience. Additionally, through analysis and reflection, existing information is related to other ideas through associational processes"* (Neperud 1995).

There is a noteworthy correlation between the proclamations of Michael Heim (whose concept of 'thought processing' was discussed in the second chapter), and those of William Doll who also points at Petrus Ramus's (1515–1572) system of knowledge outlines that were implemented as the backbone of the Humanist educational systems of his age, indeed remaining in use throughout the Age of Enlightenment, and well into the Modernist era (in Doll 1989). Doll likens the Ramus map to a contemporary corporate line-and-flow chart, and he adds that it is this design that dominates most lesson plans teachers are encouraged (indeed often mandated) to develop and to use.

Doll notes that in this system the flow is top-down, pointing at the preponderance of deductive logic. It could also be bottom-up (inductive logic) but would still need to follow up the linear hierarchy that has been set. Moving abductively; that is across, sideways, diagonally, or skipping over from node to node or from idea to idea is not possible within this frame. In short, according to Doll, Ramus's chart significantly constricts human thinking (Doll 2008: 181–183).

Doll suggests that the present-day curriculum, based on Newtonian thought, has been rendered obsolete by the holistic and interactive post-modern world view based on quantum physics, nonlinear mathematics, general systems theory, and Prigogine's non-equilibrium thermodynamics (in Doll 1989). The Newtonian world view, which is linear and reductionist, is the theoretical foundation of an orderly curriculum in which the learning outcomes have been preset, bringing to mind B. F. Skinner's conceptions of expressing learning in discrete, quantifiable, and linear units. These conceptions assume the whole to be no more than the sum of the parts, and lead to a curriculum that is cumulative rather than transformative. Doll posits three facets of post-modern thought that have radical implications for curriculum:

- the nature of open (as opposed to closed) systems;
- the structure of complexity (as opposed to simplicity); and
- transformatory (as opposed to cumulative) change; although a question as to whether a cumulative process may also result in transformatory change should also be considered here.

Therefore Doll proposes that Prigogine's notions of non-equilibrium or of dissipative structures that are perpetually in a process of becoming are a far more accurate model for a curriculum than Newton's physical, inert, mechanical structures. These developing, open structures have their own properties, distinct from equilibrium structures, and are useful as models for curriculum research. Specifically, he argues that curricula should be structured as self-regulating open systems where internal, autocatalytic transformations are encouraged. To move from a curriculum based on the simple and separate, to one which is based on the complex and cosmological requires us not only to adopt a new dialogue with nature but also to adopt a radically new relationship with students and a more integrative approach to the teaching material itself (Doll 1989).

Doll focuses on self-organization and its relation to systems theory, since both chaos and complexity come under the large umbrella of complex adaptive systems. In this context he discusses at some length Ludwig von Bertalanffy (1901–1972), who formalized his thoughts into a General System Theory, first in articles in the 1940s and 1950s, and later in a book edition in 1968 (in Doll 1989). As a theoretical biologist, Bertalanffy was drawn to the notion of developmental organization. Developmental organization has a hierarchical frame in which the part-whole relationship is a nested one – each whole consisting of a collection of interacting elements or parts that are components of an even more inclusive whole. What fascinated Bertalanffy so much in this doubled relationship of wholes, depending upon parts, and parts depending upon wholes, is that *'as long as it lives, it [the open system] maintains disequilibrium,'* a state Bertalanffy defines as 'steady.' Such steadiness however is not the steadiness of a closed, stable system. Instead the steadiness of an open system is one which is dynamic and unstable, one where through its own (inter)activity, the system maintains an 'imbalance,' neither too great nor too small, but of just 'the right amount' for the system to be continually active. In this activity, developmental and progressive, the organism has the power and the creative urge to move to 'higher forms of order and organization.' Thus, an open system that exists in a state that flows back to its trajectory exhibits a dynamic, creative steadiness, and this steady state possesses the power of transformation. Consequently, one of the most characteristic features of complex organization is the ability to develop states of higher order, differentiation and organization; indeed to create newness from itself via its interactions. *"Educationally this is not a state of teaching or learning where mimesis holds forth, but is one where play, poiesis, and possibility reign."* (Doll 1989: 188)

The second biologist whom Doll draws upon is Stuart Kauffman (in Doll 1989); whose concept of the 'modestly complex mixture' he implements as the generative framework for his own educational thoughts. Doll believes that it is possible for 'meaning' and 'understanding'—to come forward at a far deeper level in a 'modestly complex mixture' or

inside webs of catalysts. Modifying A. N. Whitehead's (1929/1967) dictum of 'throwing ideas into every combination conceivable,' Doll says that we might be able to design curricula or instructional strategies where ideas interacting with other ideas will catalyze themselves to develop (and to create) not only other ideas but also ones that are significantly deeper, more formidably creative, as well as far more experiential in nature (Doll 2008: 181–203).

## *The Experiential Continuum*

> *"The specific adaptability of an immature creature for growth constitutes his plasticity. This is something quite different from the plasticity of putty or wax. It is not a capacity to take on change of form in accord with external pressure. It lies near the pliable elasticity by which some persons take on the color of their surroundings while retaining their own bent. But it is something deeper than this. It is essentially the ability to learn from experience; the power to retain from one experience something which is of avail in coping with the difficulties of a later situation. This means power to modify actions on the basis of the results of prior experiences, the power to develop dispositions."* (Dewey: 1916)

Philosopher, psychologist and pedagogue John Dewey was deeply influenced by William James's 'Principles of Psychology' (1890)[24] that divides psychological process into four methods: Analysis, introspection, experiment, and comparison. Taking his trajectory from James's work Dewey collaborated with George Mead and James Roland Angell to develop an original theory called Functional Psychology which refers to an approach that considers mental life and behavior in terms of active adaptation to the person's environment.

Dewey applied Functional Psychology to pedagogy, and put his theories into practice through a progressive educational practice that he developed at the University of Chicago Laboratory Schools between 1890 and 1899. His findings were explicated through a number of influential books on education that Dewey wrote during the first half of the 20th century: 'The School and Society' (1900), 'The Child and the Curriculum' (1902), 'Democracy and Education' (1916) and 'Experience and Education' (1938).

[24] James, W., (1890) "Principles of Psychology". http://psycnet.apa.org/psycinfo/2004-16192-000, http://psycnet.apa.org/index.cfm?fa=search.displayRecord&UID=2004-15432-000

Throughout these a recurrent theme comes to the fore: Dewey argues that education and learning are social and interactive processes, and that the school itself is a social institution through which social reform can and should take place. He believed that students thrive in an environment where they are allowed to experience and interact with the curriculum, and that students should have the opportunity to take part in their own learning, which should be seen as a process of living and not as a preparation for future living.

What is probably the best known of these books, 'Democracy and Education' (1916), is built upon Dewey's deeply held belief in democracy. However, democracy according to Dewey should not be viewed solely as a voting system but should be grounded in sound public opinions, for which he sees education as a potent agent of reform, noting that *"education is a regulation of the process of coming to share in the social consciousness; and that the adjustment of individual activity on the basis of this social consciousness is the only sure method of social reconstruction"* (Dewey 1897). In 'Democracy and Education' Dewey expands upon the educational philosophies of Rousseau and Plato, both of which he finds problematic since Rousseau's philosophy overemphasizes the individual while Plato's philosophy overemphasizes the society in which the individual operates. Dewey however, views the mind and its formation as a communal process in which the individual becomes a meaningful concept as an inextricable part of his/her society; whereas society has no meaning apart from its realization through the lives of its individual members.

Throughout his pedagogic writings Dewey postulated that all education should be based on a theory of experience. Experience, according to Dewey, has a peculiarly double faceted characteristic in that it is both active and passive. *"When we experience something we act upon it, we do something with it; then we suffer or undergo the consequences. We do something to the thing and then it does something to us in return: such is the peculiar combination. The connection of these two phases of experience measures the fruitfulness or value of the experience."* This duality creates an experiential continuum, that is the process

where experiences that carry educational value are defined as those that promote the wish and the ability for further experiences and themselves rest upon prior experiences, forming a chain of growth, resting on a continuity of interaction: *.”..When an activity is continued into the undergoing of consequences, when the change made by action is reflected back into a change made in us, the mere flux is loaded with significance. We learn something.”*(Dewey 1916)

Dewey also points out that although all genuine education occurs through experience, not all experiences are genuinely or equally educative. According to Dewey traditional education fails because it conceives of the school as a place where certain information is to be given, where certain lessons are to be learned, or where certain habits are to be formed. *“The value of these is conceived as lying largely in the remote future; and the child must do these things for the sake of something else he is to do; they are mere preparation. As a result they do not become a part of the life experience of the child and so are not truly educative.”* (Dewey 1897)

The subject-matter of the school curriculum should mark a gradual differentiation out of the primitive unconscious unity of social life and prevent that the child’s nature is violated by abruptly introducing special studies that stand out of relation to this social life. Therefore, the true centre of correlation of the school subjects is not in the discrete topics that are taught but rather it is to be found in the child’s own social activities into which the learning material will need to be gradually and progressively interwoven in such a manner that they initiate themselves from personal experience rather than as passively transmitted abstract knowledge:

> *“It is part of the educator’s experience to see equally to two things: First, that the problem [set for the student to study] grows out of the conditions of the [] present, and that it is within the range of the capacity of students; and, secondly, that it [] arouses in the learner an active quest for information and for production of new ideas. The new facts and new ideas thus obtained become the ground for further experiences in*

*which new problems are presented. The process is a continuous spiral"* (Dewey 1938: 79).

Dewey also proclaims that there is no succession of studies in the ideal school curriculum:

> *"If education is life, all life has, from the outset, a scientific aspect; an aspect of art and culture and an aspect of communication. It cannot, therefore, be true that the proper studies for one grade are mere reading and writing, and that at a later grade, reading, or literature, or science, may be introduced. The progress is not in the succession of studies but in the development of new attitudes towards, and new interests in, experience… Education must be conceived as a continuing reconstruction of experience; that the process and the goal of education are one and the same thing"* (1897).

Dewey stresses the importance of visuality and image creation as important instruments of instruction, saying that the energy directed towards making the child learn certain things by rote might be far more wisely and profitably expended in training the child's power of imagery and in seeing to it that he/she is continually forming definite, vivid, and growing images of the various subjects with which he/she comes into contact. Emphasis is also placed upon the role of emotions, which Dewey says should only be considered as the reflexes of actions. He believes that next to deadness and dullness, formalism and routine, education is threatened with no greater evil than sentimentalism and that such sentimentalism is the necessary outcome of an attempt to divorce feeling from action.

**Beyond Dewey**

Dewey's work has been further theorized and applied to many subsequent learning strategies and is, in fact, still being extended upon and actively discussed today. One of these, Donald Schön's 'Reflective Practitioner,' which places learning within 'Practice,' has already been discussed in the first section of this chapter as part of self-directed learning.

A foundation for a strongly renewed interest in experiential learning theories during the last decades of the 20$^{th}$ century can be traced back to a fundamental theoretical shift in the field of psychology from a behaviorist/reductionist view, promulgated by Ivan Pavlov and

especially B.F. Skinner's work on operant psychology and reinforcement, to a far more complex, non-reductionist view coming to the fore through the work of theorists such as Piaget and Gage, while in linguistics it occurred as a result of Noam Chomsky's introduction of transformational grammar (Kelly 1997).

David Kolb, who says that *"learning is the process whereby knowledge is created through the transformation of experience"* (Kolb 1984:38), is held to be one of the foremost theorists who laid down the foundations of most experiential education strategies during the last quarter of the 20th century. His experiential learning cycle, greatly influenced by the earlier work of Kurt Lewin, has been widely reproduced and used by subsequent educational theorists.

Lewin, who is renowned for his quote *"if you want to truly understand something, try to change it,"* determined 'behavior' as the totality of an individual's situation. In his field theory, *"a field is defined as the totality of coexisting facts which are conceived of as mutually interdependent"* (Lewin 1951: 240). Accordingly, individuals are seen to behave differently according to the way in which tensions between perceptions of the self and of the environment are worked through; and the whole psychological field, or lifespace, within which people act, has to be viewed in order to understand behavior.

**Kolb's Experiential Learning Cycles**

Based upon Lewin's premises that held environmental influences to be strong determinants of the individual's mindset, Kolb developed his own model of experiential learning cycles in which he further refined the concept of reflection by dividing it into two separate learning activities, perceiving and processing. To these Kolb added yet another stage, which he called 'Abstract Conceptualization.' This he defines as a phase during which *"learning involves using logic and ideas, rather than feelings to understand problems or situations. Typically,*

*you would rely on systematic planning and develop theories and ideas to solve problems"* (Kolb 1984).

Accordingly, during Kolb's 'Critical Reflection' stage we ask questions about the current experience under the light of prior experiences, whereas in his 'Abstract Conceptualization' stage, we try to find answers by making generalizations, drawing conclusions, and by forming hypotheses about the experience. The 'Action phase,' in light of his interpretation, then becomes a phase of 'Active Experimentation,' where we try out our recently formed hypotheses.

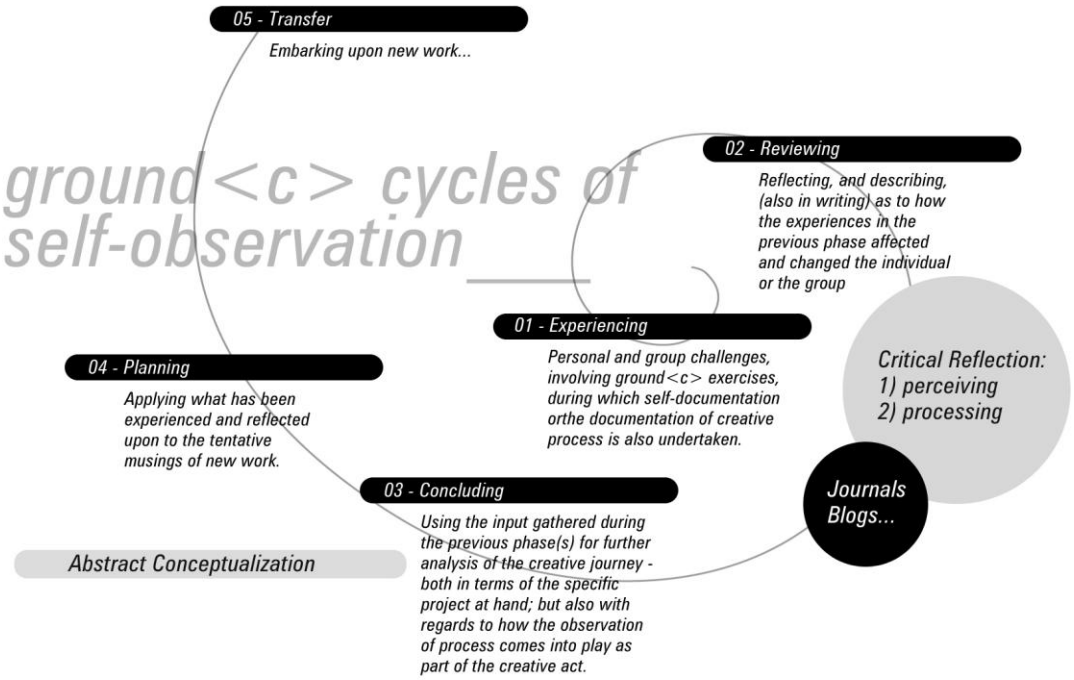


***Figure 16: "Kolb's Experiential Learning Cycles" adapted to ground<c>.***

In the diagram above Kolb's diagram of learning cycle and phases to the (self-observational) has been adapted to the purposes of ground<c>. According to Kolb and Fry (1975), the learning cycle can begin at any one of the four points. The learning process begins with a person carrying out a particular action and then seeing the effect of that action on the situation. From this first step, the learner proceeds to the second step of understanding the

effects of his action in the particular situation. This second step has the intention on the part of the learner to anticipate what would follow from the action if the same action were to be taken under the same or similar circumstances. Based on this second step, the learner will proceed to the third step of understanding the general principle under which the particular instance falls.

However not all educational theorists agree with Kolb's theory: The most strenuous criticisms come from Boud et al, who say that Kolb's system of cycles pays insufficient attention to the process/phase of reflection; while other critiques are that the claims made for the four different learning styles are extravagant and that the model takes very little account of different cultural experiences and conditions. Finally there is also a concern that the overall idea of stages or steps does not sit well with the reality of thinking. There is a problem here – that of sequence. As Dewey (1933) has said in relation to reflection a number of processes can occur at once, stages can be jumped. Thus it has been said by several of his critics that Kolb's method is too neat and simplistic (Smith 2001).

When it comes to the extensions and adaptations of Dewey's original proclamations into contemporary experiential learning strategies Boud's work on Experience Based Learning (EBL) should also be noted upon before concluding this section of the survey on experiential learning theories:

Boud stresses three factors that he says operate at some level throughout the learning process. The first of these is the involvement of the whole person – intellect, feelings and senses. For example, in learning through role-play and games, the process of playing or acting typically involves the intellect as well as some of the senses; and a variety of feelings and learning takes place through these. The second of EBL's operational factors is the recognition and active integration of all the learner's relevant prior life/learning experiences into the current learning content, since whenever new learning can be related to personal

experiences, the meaning derived is likely to be far more effectively integrated into the learner's values and understanding – which does of course directly follow up on Dewey's proclamations. The third factor of EBL however takes us back to Schön's earlier work, since it is founded upon a continued reflection upon earlier experiences in order to add to and transform them into deeper understandings, lasting as long as the learner lives and has access to memory. Thus the quality of reflective thought which is brought to bear upon the process by the learner is of far greater significance to the eventual learning outcomes than the nature of the experience itself (Boud et all 1993).

## *Transformational Learning and Jack Mezirow*

Although Mezirow's learning theories can easily be placed under the overall topic of experiential learning, they have additions, differentiations, and significantly deeper definitions both when it comes to the learner's profile as well as the emotional aspects of the learning process. Mezirow's approach is therefore placed under a separate heading to emphasize that when it comes to integrating them into the proposed framework together with cybernetic learning they are to have considerable prominence in the workings of ground<c>.

Transformative learning, which specifically addresses lifelong/adult learning, is a process of getting beyond gaining factual knowledge alone to instead become changed by what one learns in some meaningful way. It involves questioning assumptions, beliefs and values, and considering multiple points of view. In theorizing about such shifts, Mezirow (1995) proposes that there are several phases that one must go through in order for perspective transformation to occur, suggesting that this happens through a series of phases that begin with a disorienting dilemma. Other phases include self-examination, critical assessment of assumptions, recognition that others have shared similar transformations, an exploration of new roles or actions, the development of competence and self-confidence in these new roles,

and a reintegration into life on the basis of new perspectives, 'concluding with a changed self-concept' (1995).

While instrumental learning involves cause-effect relationships and learning through problem solving, communicative learning systems, such as Transformative Learning, necessitate actively negotiating one's way *"through a series of specific encounters by using language and gesture and by anticipating the actions of others, thus attaining insight which provides common ground through symbolic interaction with others"* (Mezirow, 1991:78). The former is about prescription whereas the latter is about insight and attaining common ground through symbolic interaction with other persons. For Mezirow, this is not a dichotomy but two distinct types of learning, both of which are utilized together and separately in many human activities.

Mezirow's Transformation Theory rests upon the premise that no matter how good an adult is at making sense of their experiences, they all start with what they have been given and operate within horizons set by the ways of seeing and understanding they acquired through their prior learning. Such formative learning initiates during childhood and is ongoing through most of an individual's life, coming about both through socialization and through schooling. What ensues is that these approved ways of seeing and understanding that are shaped by language, culture, and personal experiences all collaborate to set limits to our future learning (Mezirow 1991: 1).

However, adults function in a changing world since *"contradictions generated by rapid dramatic change and a diversity of beliefs, values, and social practices are a hallmark of modern society,"* (1991: 2) in which knowledge acquired from one's formative learning is no longer sufficient:

> *"Rather than merely adapting to changing circumstances by more diligently applying old ways of knowing, adults discover a need to acquire new perspectives in order to gain a more complete understanding of changing events and a higher degree of*

*control in their lives. The formative learning of childhood becomes transformative learning in adulthood."* (1991: 2)

We construe meaning from both symbolic exemplars and habits of expectations. These habits of expectations are the meaning perspectives and meaning schemes which frame and organize these symbols into systems. The symbols that adults project onto their sense perceptions are filtered through meaning perspectives and meaning schemes. As a result, symbols (and metaphors) take on new and enhanced meanings. These Mezirow termed as 'loaded perceptions.' Adult learning, development, and change come about when meaning perspectives and meaning schemes are transformed through reflection and critical discourse, and these acquired frames of reference are central to Transformational Learning. It is through such frames of reference or personal paradigms that all meaning is construed and all learning takes place. Action in this context includes making decisions and associations, revising points of view, reframing or solving problems, modifying attitudes, or producing changes in behavior. For Mezirow *"action in transformative theory is not only behavior, the effect of cause and effect, but rather 'praxis,' the creative implementation of a purpose."* (1991: 12)

**Perspective Transformations**

According to Mezirow learning can occur in different ways such as learning through meaning schemes, progressing to learning new meaning schemes, as well as through the transformations of existent meaning schemes. However, the most significant and impactful of these is learning through perspective transformation which occurs when we encounter experiences (often in emotionally charged situations) that fail to fit our expectations and on that account lack meaning. A second circumstance under which they may take place are also when an anomaly that cannot be given coherence within existing meaning schemes is

encountered, which can almost be considered as the actuation on a personal level of Thomas Kuhn's epistemological term, the 'paradigm shift'[25].

In theorizing about such shifts, Mezirow proposes that there are several phases that one must go through in order for perspective transformation to occur. *"Perspective transformation involves a sequence of learning activities that begin with a disorienting dilemma and conclude with a changed self-concept"* (1994).

Perspective Transformations are in part also based on psychoanalytic theory and critical social theory, and constitute the most distinctive aspects of Mezirow's approach to learning since they involve what Jurgen Habermas describes as an emancipatory action[26]. Mezirow defines a perspective transformation as the *"emancipatory process of becoming critically aware of how and why the structure of psycho-structural assumptions has come to constrain the way we see our relationships, reconstituting this structure to permit a more inclusive and discriminating integration of experience and acting upon these new understandings"* (Mezirow 1981: 6); by "*changing these structures of habitual expectation to make possible a more inclusive, discriminating, and integrating perspective; and, finally, making choices or otherwise acting upon these new understandings."* (Mezirow 1991: 167)

Perspective transformations are precipitated by experiences that cannot be resolved by simply acquiring more information, by enhancing problem solving skills, or by adding to one's competencies. A perspective transformation can occur either through an accretion of transformation of meaning schemes resulting from a series of dilemmas, an epiphany, or as a response to an externally imposed epochal dilemma. Thus in effect, *"any major challenge to an established perspective can result in a transformation"* (Mezirow 1991: 168) and once someone has moved forward to a new meaning perspective they can never return to those in

25 http://www.des.emory.edu/mfp/Kuhn.html
26 Jurgen Habermas, Emancipatory Action: http://physicsed.buffalostate.edu/danowner/habcritthy.html

the past. However, after arriving at the new meaning perspective the individual may require special support or assistance to maintain the will and determination to persevere.

Another aspect of Mezirow's theory is his emphasis on the 'emancipatory process,' the release from previously held assumptions, credos and thought matrices through 'perspective transformation' – in other words, the huge importance he places on the concept of 'change.' Mezirow's learning principles dovetail with one of Ascott's foundational strategies for the Groundcourse that also revolved around 'change': Ascott saw the way to the unfolding of full creative potential in breaking away from habit and preconceptions and structured his learning system upon this belief through an orchestration of exercises that were all devised to facilitate a breaking away from convictions regarding 'self,' 'society,' and the meanings of the creative act for both 'self' and 'society' – all of which were prejudices which he believed that his young students were severely held back by. Similarly Mezirow sees 'change' as a crucial gateway to learning and growth in adults, in whom such prejudices, this time also entrenched by long years of habituated thinking, also hinder change and growth.

Thus, rather than viewing learning activity solely within the confines of specific instructional material, Mezirow places the concept of learning within a much broader context of emotional and behavioral change and growth. Through this approach, his work is singularly well suited when it comes to the creative fields, since the learning processes of these also appear to reside as much in the realm of the intangible, in the crossing of psychic borders, in the breaking of habit, as do Mezirow's definitions of what it means for an adult to attain learning experiences that evoke change, bringing with them a grasp of novel meanings which are powerful enough to transform long-held convictions and thought patterns.

*Bringing it all together…*

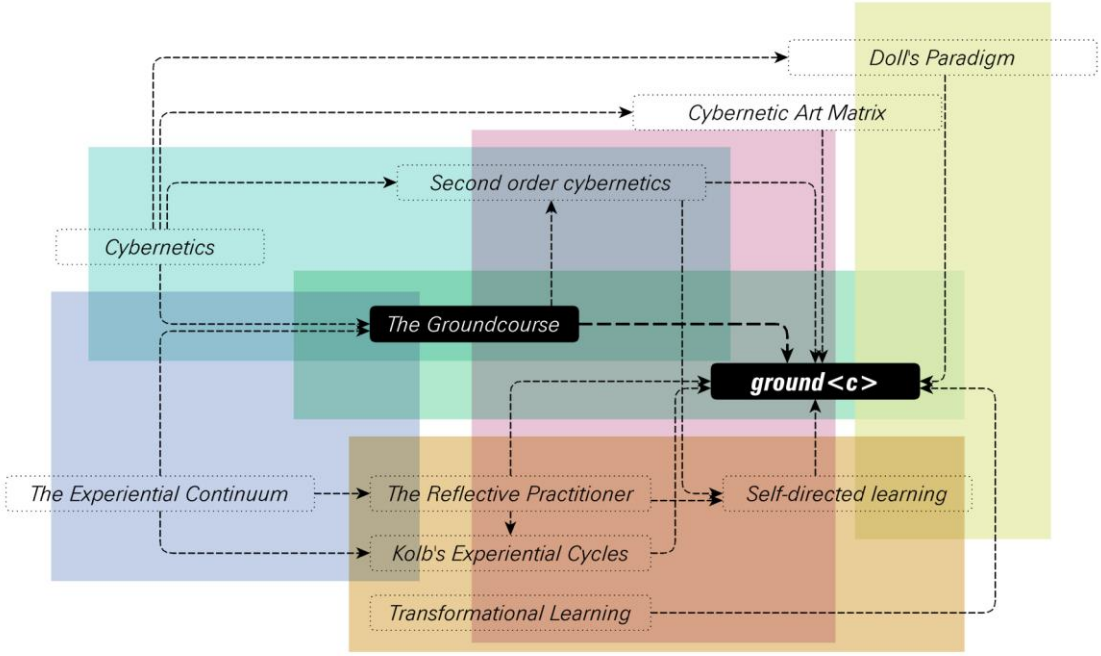


***Figure 17: "The learning theories of ground<c>"***

Figure 17 clarifies how the educational theories described in this chapter come together. While the main source of input to ground<c> comes from the Groundcourse, to which the previous chapter has been devoted; the Groundcourse itself is inspired by Ascott's emphasis on cybernetics and experiential learning, through his particular interest in Dewey's learning theories. Cybernetics gave rise to second order cybernetics, which the Groundcourse actually pre-dates. Ascott deploys devices (such as the calibrators, the mindmaps, and also the visual documentation that his students were asked to undertake at the conclusion of their second year project). These strongly suggest prescience on his behalf in this regard, thus the arrow linking the two originates from the Groundcourse. Second order cybernetics is strongly connected to ground<c> in its own right since self-directed learning involves a great deal of self-observation. Self-directed learning in its turn is effortlessly connected to experiential learning particularly through Schön's Reflective Practitioner, as well as through Transformational Learning.

In terms of the structure of how such a project may be actuated, the source of input is Ascott's Cybernetic Art Matrix, which can be easily correlated to Doll's proposal on how a learning environment should be thought of and structured along a biological paradigm. Thus, these two have also been placed inside this diagram on the upper right corner, linked directly to the ground<c> node.

While constitutions of learning theories that can be comfortably related to form a coherent theoretical background to the project are crucial; equally important is a description of where and how and with what devices such a learning strategy is to materialize. The following chapter will therefore go into the metaverse and 'play.'

# V. Presence > Play > Produsage

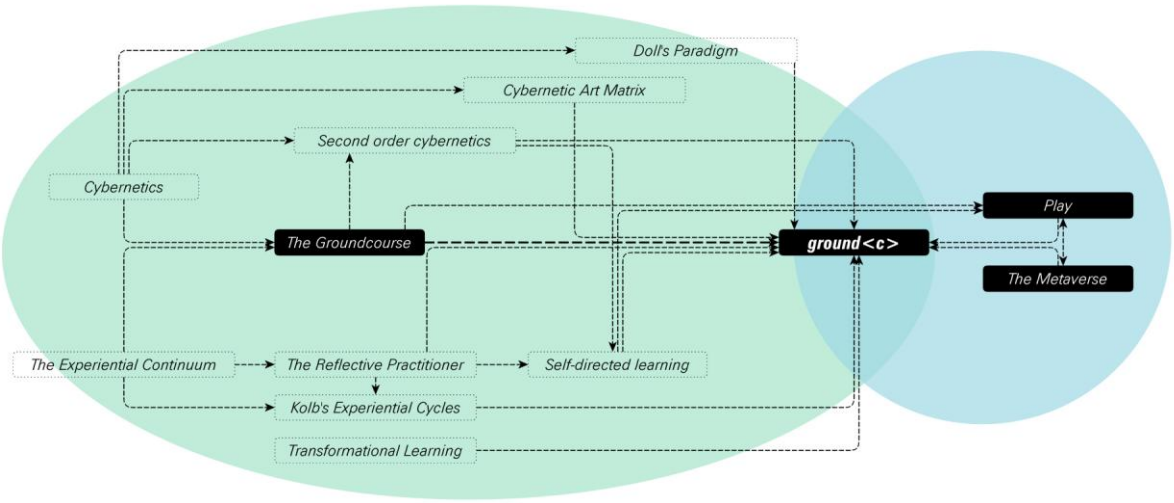


***Figure 18: "The theoretical constituents of ground<c>"***

This chapter begins with a diagram that illustrates the theoretical framework of the project in its entirety: Here the educational theories on the left have been brought together with 'The Metaverse' and 'Play' on the right. 'The Metaverse' as a topic is not separated from 'Play' since the two are intertwined to a degree where it is quite difficult to distinguish the boundaries between them.

The chapter therefore moves back and forth between the two subjects, setting aside special sections to go into their discrete aspects. An important one of these is metaverse economy, which is a very powerful trigger that causes a substantial portion of the creative activity that is evidenced in the metaverse to commence. Examining the metaverse economy and its

impact on creativity makes use of a newly coined term – produsage – which also gives this chapter the third component of its title.

## *The pendulum between unselfconscious play and self-observation*

One of the major dilemmas of this project is the bringing together of two seemingly incompatible mind states – self-observation and unselfconsciousness:

When talking about a learning model such as the one proposed; that is, one which rests upon self-observation; play theories may be perceived as inherently problematic since true 'play' necessitates an unselfconscious mental state during the play session itself, and as such stands in contradiction to a state of self-observation that inevitably involves the opposite – self-awareness.

This issue also came up during the interview with Roy Ascott in 2010, when asked about the function of 'play' within the Groundcourse. After a reminder of Thomas Mann's statement which advocates that one should always *"play in deep seriousness,"* he gave an example from those days:

> *"It was about play in the sense that the students hopefully saw themselves in a situation that was a playful one; that they were at one remove from consequential living. In other words, if you were in this scenario – this six week project – such as for instance in the one which was about the invention of a game: So, five six people had to invent a game. However, they were also subject to all these antinomies – constraints, changes! Constantly doing this for 6 weeks... There's nothing else going on, everyday they adopt all these roles.*
>
> *And somehow they have to communicate although this one can't speak, that one can't write... So there are a lot of things to be dealt with. They have to negotiate absolutely. There is no way that you have a leader emerging or any of that stuff that you get in Western cultures about groups – which aren't really groups at all. So instead, this really is interactive; there is no way of getting out of that. Everything is constantly changing, even in its morphology. And (with all of this going on) they have to invent a game!*
>
> *Well, the setting for that has no consequences: If they don't invent a game the walls don't fall down, or they don't get to eat for a week…*
>
> *So, really it is play. A theatricized play…"* (Ascott 2010)

Immediately after this he came to the actual heart of the matter:

> *"The reason that I hesitate with the word 'play' is because I would have thought that the essence of play is that it isn't self-conscious. You know, I am not going to get them to make formal games – and certainly not professional ones!*
>
> *So, I think with play you would have to be unaware that you are in fact playing, whereas in the situation (that they were in) they were hyper-aware of playing. They were hyper-aware of the artificiality – hopefully to carry that over to, as it were, to Real Life, which hopefully they will begin to understand as also totally artificial. There is no 'natural living.'*
>
> *So, it is all constructed, invented, it has protocols and rules – all of which can be changed. So, that was the thinking behind it. And so, in a way it was more theater than play in a certain sense – but it's a fine point. But they are certainly not unconscious of it. And then the next phase of course, after those six weeks, is that they make drawings of the process. So, knowing that they are going to be doing that ahead of time...*
>
> *But it is play in a sense. It's a very fine distinction – but it is a distinction worth making..."* (Ascott 2010)

The main reason for conducting the extensive literature review on reflective experiential learning theories was a need to establish a foundation that would help attain insights into how this contradiction might be resolved; its opposing demands be brought together and be reconciled. What Schön says on the Reflective Practitioner (Schön 1983), to which Boud has added some very tangible suggestions regarding the efficacy of journal keeping to aid recall and reflection after-the-experience are valuable (Boud 2001) are of much value; as are the notions of Kolb's Experiential Cycles (1975), and Gibbs's Reflective Cycles (1999). The diagrams of these have already been modified to the needs of ground<c>, and presented in the covering of that material. This was based on the idea that solutions that apply to learning may also be adapted to the flip-side of the coin, 'play.'

The educational theory revealed seems to also be verified by 'play' theory in which the same principles of recall and reflection upon past experience are taken into consideration. Huizinga gives us a way out of the conundrum by noting that a curious feature of play is that *"once played, [the session] endures as a new-found creation of the mind, a treasure to be retained by memory. It is transmitted; it becomes a tradition which can be repeated at any time"* (Huizinga 1938: 9-10). According to Huizinga, one of the most essential qualities of

play is to be found in this faculty of repetition, which points at the inner structure of a process through which all higher forms of play carry the elements of alternations and refrains like the warps and woofs of a fabric. Thus play incorporates memory and reflection, from which it can be inferred that it does not exclude self-observation – most likely even during the actual play session itself, but if not then during a follow-up period of reflection and recall when the experience can be documented to be re-enacted as new iterations of the playfully creative process.

Beyond this faculty of repetition, Huizinga also calls attention to at an inherent contradiction in play sessions during which self-awareness and unconscious absorption seem to vacillate:

> *"The child plays in complete – we can well say, in sacred – earnest. But it plays and knows that it plays. The sportsman, too, plays with all the fervor of a man enraptured, but he still knows that he is playing. The actor on the stage is wholly absorbed in his playing, but is all the time conscious of 'the play.' The same holds good of the violinist, though he may soar to realms beyond this world. The play-character, therefore, may attach to the sublimest forms of action."* (1938: 18)

Fortified by these words, whilst nevertheless remaining highly vigilant concerning all the pitfalls that the project's prospective participants may incur in this regard, the fine thread which resides at the intersection of 'play' and 'the metaverse' will now be further discussed.

## *Theories of Play*

> *"Play is freedom. Play is extraordinary. Play is distinct from the ordinary both in locality and duration. Play is fun."* (Huizinga 1938)

While the contemporary field of play theory is large – and especially so, when the output that is generated in its subfield Ludology and its neighboring field Hedonics are also taken into account – this thesis rests on the texts of two of its most distinguished authors: Johan Huizinga and Brian Sutton-Smith.

In addition to these two seminal writers who are both talking about 'play' in a highly specific manner, the texts of writers whose output does not address this field directly are also

included: Malcolm McCullough, whose book 'Abstracting Craft' was discussed during the second chapter, and Arthur Koestler who has coined a significant term, bisociation, that defines mental states and thought matrices which are in accord with the propositions of this chapter.

**Home Ludens**

'Homo Ludens' was written in 1938 by Johan Huizinga, a Dutch historian and cultural theorist, who wished to examine *"how far culture itself bears the character of play."* The book stands as one of the main corner stones, if not indeed the very foundation, of play theory and has received huge amounts of consideration over recent decades due to the increased attention that has been given to 'play' by the gaming industry.

Huizinga does not define 'play' as a discrete and separate activity that finds it place alongside other manifestations of culture. In Huizinga's understanding play is pervasive and does not belong to the jurisdiction of any one age group, activity, field or calling; but instead spreads itself amongst all human activities throughout their lifetimes, and manifests itself in all professions including law, philosophy, war, research and art – to all of which he dedicates full chapters in his book.

What the constituents and characteristics of 'play' are problematic to identify in and of themselves. Huizinga starts his book by proclaiming that *"play is older than culture, for culture, however inadequately defined, always presupposes human society, and animals have not waited for man to teach them their playing,"* (1938: 1) from which it would appear to follow that the intrinsic nature of 'play' for Huizinga is quite intangible:

> *"It goes beyond the confines of purely physical or purely biological activity. It is a significant function – that is to say; there is some sense to it. In play there is something 'at play' which transcends the immediate needs of life and imparts meaning to the action. All play means something. If we call the active principle that makes up the*

*essence of play, 'instinct' we explain nothing; if we call it 'mind' or 'will' we say too much. However we may regard it, the very fact that play has a meaning implies a non-materialistic quality in the nature of the thing itself."* (1938: 1)

The first chapter of 'Homo Ludens' is devoted to attaining a deeper understanding of the meaning of 'play.' Biological conditions (including those of 'learning' for the survival of the species) appear to be insufficient for explaining behavior, that is as extraordinary and as idiosyncratic as 'play' is, as a natural or as an instinctive state; since nature, he says, would surely have provided far more efficient means for the fulfillment of those functions that scientists have always associated with 'play:'

*"The intensity of and absorption in play finds no explanation in biological analysis. Yet in this intensity, this absorption, this power of maddening, lies the very essence, the primordial quality of play. Nature, so our reasoning mind tells us, could just as easily have given her children all those useful functions of discharging superabundant energy, of relaxing after exertion, of training for the demands of life, of compensating for unfulfilled longings, etc., in the form of purely mechanical exercises and reactions. But no, she gave us play, with its tension, its mirth, and its fun.*

*Now this last-named element, the fun of playing, resists all analysis, all logical interpretation. As a concept, it cannot be reduced to any other mental category. No other modern language known to me has the exact equivalent of the English 'fun.' ... it is precisely this fun-element that characterizes the essence of play. ... We may well call play a 'totality,' and it is as a totality that we must try to understand and evaluate it."* (1938: 2-3)

One of the terms under which Huizinga investigates what 'play' is, brings us back to Mann's expression: *"Play in deep seriousness."* Here Huizinga starts out by opposing Mann: *"Play is the direct opposite of seriousness. At first sight this opposition seems as irreducible to other categories as the play concept itself."* (1938: 5) He later expresses his ambivalence on the matter when he says:

*"Examined more closely, however, the contrast between play and seriousness proves to be neither conclusive nor fixed. We can say: play is non-seriousness. But apart from the fact that this proposition tells us nothing about the positive qualities of play, it is extraordinarily easy to refute. As soon as we proceed from 'play is non-seriousness' to 'play is not serious,' the contrast leaves us in the lurch – for some play can be very serious indeed."* (1938: 6)

For Huizinga there are many other activities (such as laughter, folly, wit, joke, and the comic) that share this same attribute of resisting any attempt to reduce them to other terms

when attempting to define their characteristics. Moreover laughter (unlike 'play') is uniquely human: 'Homo rirens' characterizes man as distinct from the animal almost more absolutely than 'homo sapiens.' Thus:

> *"Their rationale and their mutual relationships must lie in a very deep layer of our mental being. The more we try to mark off the form we call 'play' from other forms apparently related to it, the more the absolute independence of the play concept stands out. And the segregation of play from the domain of the great categorical antitheses does not stop there. Play lies outside the antithesis of wisdom and folly, and equally outside those of truth and falsehood, good and evil."* (1938: 9)

Although Huizinga is unable to determine what 'play' is about in its essence, nevertheless he does identify a list of the tangible attributes which this intangible thing – which seemingly can only be understood by what 'it is not' rather than by what 'it is' – holds. The full list is given below, in the order in which Huizinga discussed them in his text:

- Play is first and foremost a voluntary act: It is free – it is in fact freedom itself.
- Play is 'extraordinary' since it sets the player outside the confines of the 'ordinary' or of 'real' life for the duration of the play session.
- Following from this, 'play' is distinct from 'ordinary' life when it comes to both locality and duration.
- Play creates its own order as well as its appended rules (which, again, stand outside of the order of 'real' life); and demands absolute and supreme allegiance to these from the player.
- Play cannot be connected to material interests, and thus a play state is always entered into with no gain or profit in mind. (1938: 7-11)

Yet another attribute which can be related to 'play' is the secrecy that players very often surround themselves with. This love of secrecy, which is also evidenced in very early childhood play, points at the exceptional and special position of play as 'a thing apart' from the 'ordinary,' which evokes feelings that *"this is for us, not for the 'others.' What the 'others' do 'outside' is no concern of ours at the moment. Inside the circle of the game the laws and customs of ordinary life no longer count. We are different and do things differently"* (1938: 12).

Huizinga gives considerable attention to the omnipresence of 'play' in religion and religious rites, to which purpose he also quotes from the seventh book of Plato's 'Laws'[27], in which this confluence of ritual and play was recognized by Plato as a given fact,; thus he had no hesitation in comprising the sacra in the category of play. He quotes from Plato who says that *"'God alone is worthy of supreme seriousness, but man is made God's plaything, and that is the best part of him. Therefore every man and woman should live life accordingly, and play the noblest games and be of another mind from what they are at present… What, then, is the right way of living? Life must be lived as play, playing certain games, making sacrifices, singing and dancing, and then a man will be able to propitiate the gods, and defend himself against his enemies, and win in the contest.'"* (1938: 19)

Huizinga's thoughts on disguise and representation relate to avatars, their many identities, their appearances and their representations, since *the* 'differentness' and secrecy of play are most vividly expressed in 'dressing up.' *"Here the 'extra-ordinary' nature of play reaches perfection. The disguised or masked individual 'plays' another part, another being. He is another being. The terrors of childhood, open-hearted gaiety, mystic fantasy and sacred awe are all inextricably entangled in this strange business of masks and disguises;"* and that *"performances of this kind are full of imagination. The child is making an image of something different, something more beautiful, or more sublime, or more dangerous than what he usually is. ... The child is quite literally 'beside himself' with delight, transported beyond himself to such an extent that he almost believes he actually is such and such a thing, without, however, wholly losing consciousness of 'ordinary reality.' This representation is not so much a sham-reality as a realization in appearance: 'imagination' in the original sense of the word."* (1938: 13–14)

Incorporating parts of Huizinga's study on 'play' into the theoretical framework is questionable since what he tells us transcends particular cases to which his thoughts can be

[27] Plato's Laws vii: http://classics.mit.edu/Plato/laws.7.vii.html

molded. Instead, Huizinga tries to bring about an understanding of an all-inclusive activity demonstrated in all walks of life. For example, his words on dressing-up and representation can be applied in equal measure to avatars and to Judge's robes, which he does in fact go into at some length in his chapter on Law and Play (1938: 77–88). There are two chapters in the book however that do address this research closely – those on 'mythopoiesis' and 'art and play.' These constitute a sub-section that will conclude the reading of Huizinga's 'Homo Ludens.'

*Huizinga on Mythopoiesis and Art*

Huizinga starts his chapter on mythopoiesis by saying that as soon as metaphors begin to describe things or events in terms of life and movement, we are on the road to personification, and continues to point out the strong correlation between play and 'mythopoiesis,' whereby the representation of *"the incorporeal and the inanimate as a person is the soul of all myth-making and nearly all poetry."* However, are we justified in calling this innate habit of the mind, this tendency to create an imaginary world of living beings, a 'playing of the mind,' or 'a mental game?' (1938: 135)

If this innate tendency of the mind that invests the objects of ordinary life with personality, is in fact rooted in play, then Huizinga tells us that we are confronted with a serious issue given that 'play' has been present before human culture or human speech ever existed, and as such the ground on which personification and imagination works may indeed reach back to our remotest pasts as living beings. While theriomorphic imagination is at the bottom of the whole complex of totemism, a far more recent manifestation is the 'versipellis,' known the world over as the individual who can temporarily take on the form of an animal, such as a werewolf.

Huizinga asks whether the theriomorphic factor in mythology and religion can best be understood in terms of children who will easily engage in this form of make-belief; and from

there continues into the world of adults, wondering whether we are *"quite sure that present-day philosophy and psychology have wholly abandoned the allegorical mode of expression? It often seems to me that they have not and never can. Age old allegorical thinking still creeps into their terminology, and personification thrives in the names they give to psychic impulses and states of mind. ... But then we may also well ask whether abstract speech can ever get on without them"* (1938: 141).

Not only the elements of myth but those of poetry are also best understood as play functions. According to Huizinga, poetry derives its purpose from the timeless, ever-recurring patterns of play: beat and counter-beat, rise and fall, question and answer – in short, rhythm. Its origin is bound up with the principles of song and dance, which in their turn are best comprehended in the immemorial function of play.

Mythopoiesis and play, in Huizinga's understanding, may also answer at least some of the questions as to why avatars have such a profound effect upon us by examining this query from the viewpoint of the theriomorphic imagination, which as Huizinga points out can be traced back to a very deep level of our psychic evolution, and as such would appear to have a very powerful impact on our sense of being – often indeed increasedly so, due to its subliminal attributes.

Taken in its most literal correlation some avatars do in fact manifest as animals (furries), effectively allowing the human behind the keyboard to change into fauna at will. Furthermore, many furry avatars are also shapeshifters who will not settle for one representation but will metamorphose from beast to beast (often in front of one's very eyes, as one is conversing with them); or indeed switch between many types of hard to define life forms that reside at the intersections of states.

It should however be noted that many residents of the metaverse have self-representations that follow a rigid replication of human physiognomy which is also often vastly enhanced,

and the research acknowledges that the above description cannot be applied to these. These cases aside however, the application of theriomorphic imagination to metaverse play sessions, will inform the project as an important component of learning activity.

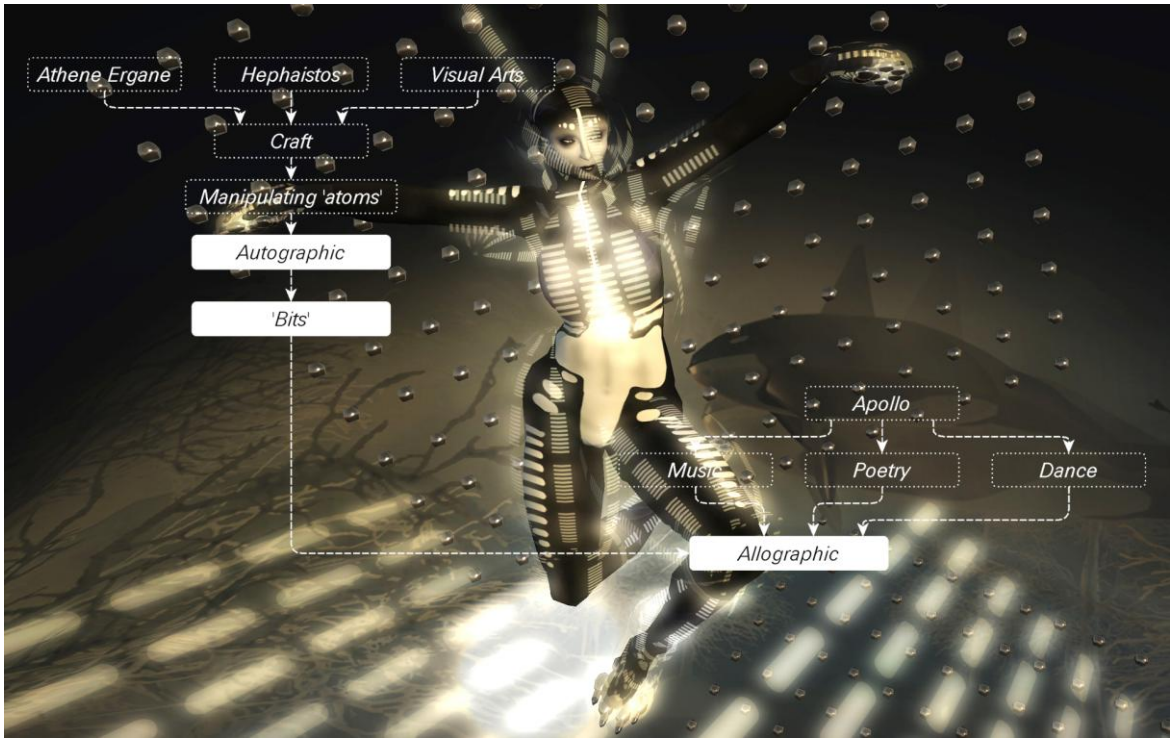


***Figure 19: "The mythological attributes of the avatar transformed by 'bits.'"***

There is close link that Huizinga sees between mythopoiesis and creative activity that is brought forth through allographic arts such as poetry, drama and dance; however he is hesitant to extend this into autographic art fields such as traditional painting and sculpture. For him the former possess an inherent affinity with play in that they can be seen as immaterial, participatory and performative experiences whereas the (traditional) plastic arts involve a far more deliberate approach, that involves planning ahead of time and then executing the pre-planned action, due to the nature of their materials that are rigid and do not easily accommodate improvisations whilst working with them. Huizinga traces this differentiation between the poetic arts and the (traditional) plastic arts back to Greek mythology, where the former were relegated to the jurisdiction of Apollo and the Muses, while the visual arts were assigned to the domains of Hephaistos, the master craftsman, and

Athene Erganē, the goddess of the handicrafts (1938, 158-172). Indeed, the (traditional) visual arts seem to be one of the very few areas of human activity in which Huizinga cannot seem to find an easy correspondence to 'play.'

The metaverse avatar is a uniquely hybrid being, that might have delighted Huizinga in its ability to combine allographic and autographic creativity: Avatars are visual creatures. They are visual artifacts. However, avatars are equally troubadours and storytellers, poets and dancers and performers. And ultimately avatars, at their absolute and consummate best, are – players!

**The Ambiguity of Play**

As the title of his book already suggests, Brian Sutton-Smith too is uncertain of what 'play' may be; which just as Huizinga he makes clear from the very first page of his book when he quotes Mihail Spariosu (1989) who described play as 'amphibolous,' which means 'moving in two directions at the same time.' To further illustrate the ambiguity in 'play' Sutton-Smith also refers to Gregory Bateson who said in 1955 that 'play is a paradox because it both is and is not what it appears to be;' and Richard Schechner who in 1988 suggested that 'a playful nip is not only not a bite; it is also *not* not a bite.' (1997: 1)

Sutton-Smith draws from animal play, psychology, folklore, literary criticism, biology and anthropology in order to set up his 'Play Rhetorics' that form the essence of his study. The book considers seven major play aspects that cover developmental play, examine research in animal play; power-play in sports and games; play in the construction of identity through cultural activities such as rituals and festivals; imaginary play in art and literature (which Sutton-Smith also ties in with childhood phantasmagoria), and the self in play from the perspective of individual psychology. The book ends with the 'frivolous' as a deconstruction of play. Of these, this research focuses on the 'Rhetorics of the Imaginary' and its follow-up,

his chapter on 'child phantasmagoria,' since these two topics are essential in that they cover 'play' in relationship to creativity.

*The Play Rhetorics of the Imaginary*

Sutton-Smith reports difficulty in choosing a name for the rhetorics of the imaginary, noting that he rejects the term 'creativity' since it has become too confined by its history as a quantitative variable in psychology.

Gathered here are all who believe that some kind of transformation is the most fundamental characteristic of play, including artists of all kinds: *"The heterogeneity of this rhetoric is illustrated by listing many of the concepts relevant to its description: imagination, fancy, phantasmagoria, creativity, art, romanticism, flexibility, metaphor, mythology, serendipity, pretense, deconstruction, heteroglossia, the act of making what is present absent or what is absent present, and the play of signifiers,"* adding that *"one aspect of this rhetoric that must be well understood is how the play metaphor works and whether it really has anything much at all to do with playing persons"* (1997: 127-128). Play can also be seen as a literary trope, particularly as a metaphor for other things, and this too is a preoccupation of the rhetoric of the imaginary. However play, itself is not a figure of speech, nor a trope or a metaphor; play is first and foremost a biological, prelinguistic enactment with its own claims on human existence – no matter how metaphorized it is in its other claims (1997: 142-143).

Sutton-Smith stresses the affinity between imaginary play and Romanticism where a strong identification between freedom, autonomy, the individual and the creative mindset can also be found. Romanticism, according to Sutton Smith, presented the world with identification between art and play, since both involve the freedom, the autonomy and the originality of the individual. Although not equal, according to Schiller, as free forms of expression, art and play are constantly paired in subsequent history (in Sutton-Smith 1997: 131). However, the origins of imaginary play and related creative activity go back far deeper, to the beginnings

of life itself. Sutton-Smith then quotes Huizinga, who writes that poetry *"lies beyond seriousness in the primordial domain peculiar to the child, the savage, the visionary, in the domain of dreams, of ecstasy, of intoxication, of laughter"* (Huizinga 1938: 119).

The chapter on the 'rhetorics of the imaginary,' points at the 'play of signifiers,' referring to the work of Jacques Derrida, who has undertaken an extensive campaign of appearing to rewrite the classics, such as 'The Postcard from Socrates to Freud and Beyond!' (1987), and 'The Archeology of the Frivolous' (1980). Both of these books are 'play,' since in these works Derrida becomes the kind of presence that his corpus of writing is intended to deny: *"After all, where everything is at play and there are no players, who are Derrida?"* Sutton-Smith lauds Derrida as having brought forth *"the most radical account of the role of the ludic turn in modern thought"* and who *"finds language to have always a multiplicity of meanings, to be constantly reinterpretable with no central, essential, or final meanings."* In sum, Sutton Smith says that for Derrida, the author, *"everything begins as free play, though there seems to be something of a paradox in the assertion that free play is so central to a process in which no centre has a fixed meaning"* (1997: 144–146).

After a tour de force of examining the creative output of many authors between the romantic period and the present day, under the light of 'imaginary play,' Sutton-Smith also casts an eye at the future of this rhetoric by saying that *"whatever may be the real science of the matter, the next generation is going to believe that our minds are always at play, regardless of whether there is any such vital play presence in our midst. The rhetoric of the imaginary seems likely to overwhelm the evidence. There will be a rhetoric of ludicism in the future, whether or not there is much substantial ludicmindedness. Participants acknowledge that as performers they are frequently at play in their work; they are artists only when they are at play, or perhaps they are ideally human only when they are at play, as Schiller meant to say"* (1997: 149).

In the chapter on child phantasmagoria, which in the introduction he links to the 'rhetorics of the imaginary,' Sutton-Smith goes into the workings of the imagination by examining children at play. This presents considerable difficulties in understanding children's play in a culture as dualistic in terms of adults and children as ours is. Sutton-Smith notes that in general adults appear to be frightened by children's phantasmagoria and apparently, only a small percentage of children grow into adults who treasure forever their memories of some recurrent fantasy that preoccupied them in their childhood. In examining some of these modern 'paracosms,' they turn out to be quite as phantasmagorical as one might expect (1997: 172).

Sutton-Smith notes that the modern realm of child phantasmagoria is increasingly being staged in solitary play rather than in collective play, and that one of the major implicit cultural functions of toys in the past 200 years has been as props to support relatively solitary play. Play in most societies throughout most of history has been a collective activity. However, in modern societies that require massive amounts of individualized symbolic skill from their members, habituating children to solitary preoccupations appears to be a primary function of toys (1997: 155).

Sutton-Smith refers to several studies which show that children *"can comprehend and sustain very complex play macrocosms and paracosms, and that this is indeed a testimony to play's independence, without which viable ludic transformations would probably not be possible."* Children's play fantasies are not meant to replicate the world, instead they are meant to fabricate another world that lives alongside the first one and carries on its own kind of life, a life often much more emotionally vivid than mundane reality (1997: 158). Thus 'play' is also a deconstruction of realistic society, taking the world apart in a way that suits the emotional responses of the player. As such, children's play is a deconstruction of the world in which they live, and if we are to bring such a deconstruction back to the 'play of the imaginary with signifiers,' it follows that if the world is a text, the play is the reader's

response to that text. There are endless possible reader responses to the orthodox text of growing up in childhood. There is an endless play of signifiers of which children and all other players are capable (1997: 166).

Sutton-Smith also quotes Greta Fein who has observed that children give their play a structure which is based on experiencing in a safe way the intense and even potentially disturbing emotional relationships of actuality and fantasy. Their play is not based primarily on a representation of everyday real events – as many prior investigators have supposed – as much as it is based on a fantasy of emotional events. The logic of play is the logic of dealing with emotions, and it has to do with how these may be expressed and reacted to in any mundane or fantastic way that the players choose. What is remarkable about Fein's account is that it parallels the efforts of biologists who tell us that animal play also is not about realistic representations; that it is, rather, fragmentary, disorderly, and exaggerative (in Sutton-Smith 1997: 157-159).

But it may be that all of us, child and adult, work at fantasizing metaphysical paracosms all our days. We are eternally making over the world in our minds, and much of it is fantasy. The difference is that while children have toys, adults have images, words, music, and daydreams, which are deemed to perform in much the same way as toys do. Our fantasies are the microworlds of an inner life that all of us manipulate in our own way to come to terms with feelings, realities, and aspirations as they enter our lives; and in this way children and adults may not really be so different in their use of fantasy play. The difference lies only in the concreteness of the symbols, and in the maturity of their purposes, not in the universal existence of fantasized inner lives (Sutton-Smith 1997: 156).

Sutton-Smith's chapter on the last of his seven rhetorics – the 'Rhetorics of Frivolity' ends his study by proclaiming that *"no theory of play would be adequate if it did not leave scope for its own deconstruction and distortion into nonsense."* Thus, 'play' is the Fool who one

day might become King; and most metaverse avatars may well agree with Sutton-Smith when he finally asserts that *"frivolity may be a mirror of the earthly desires for transcendence that one finds in all other kinds of play. This mode of transcendence or transformation is most extreme in the way which games of frivolity deny both reality and mortality."* (Sutton-Smith, 1997, 213)

**Bisociation**

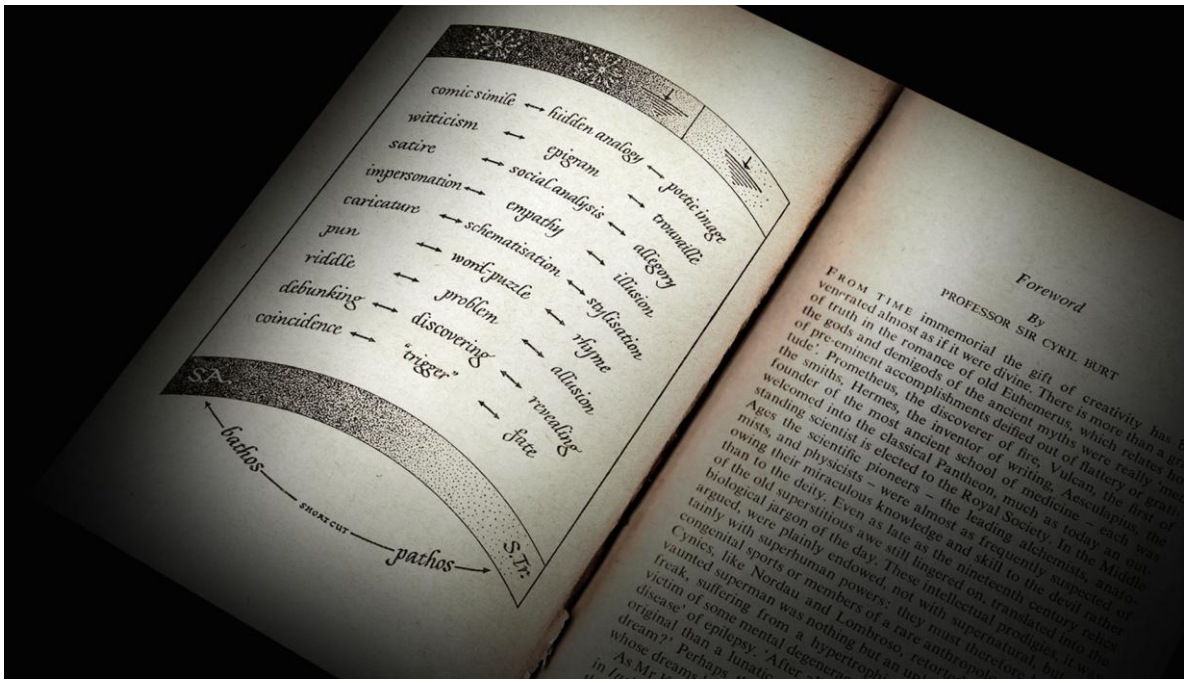


***Figure 20: "Bathos – Pathos." Arthur Koestler, 1964.*** [28]

The third author to bring into the discussion on 'play' is Arthur Koestler, who in his book 'The Act of Creation' (1964) repeatedly comes back to terms such as humor, laughter, games and play as he exposes his ideology on how creative acts occur; and how creativity is a play of the mind that he identifies as an act of 'bisociation,' which is *"the sudden interlocking of two previously unrelated matrices of thought"* (Koestler 1964: 121).

*28 Illustration from Koestler's book 'The Act of Creation,' 1964. Every effort of mine to find attribution for the creator of the chart has unfortunately failed.*

Koestler establishes a continuity between thought patterns, in which the same ideational matrices can operate within differentiated emotional and intellectual climates to bring forth vastly different manifestations of creativity.

Figure 20 shows the graduated relationships between humor, discovery, and art; that as we travel across the triptych from left to right, show changes of emotional climate through gradual transitions from an absurd through an abstract to a tragic/lyric view of existence. These poles are archetypically represented by the jester and the sage, to whom Koestler dedicates the first two chapters of his book which rests upon the notion that in order for a creative act to come about at any phase of the gradient, the mind has to bring together two unrelated matrices of perception.

When two such independent matrices of perception or reasoning interact with each other the result can be a collision ending in laughter, their fusion may cause a new intellectual synthesis, or their confrontation may be turned into an aesthetic experience. Koestler gives many examples to such collisions, one of which he attributes to Arthur Schopenhauer to whom belongs the tale of *'a convict who was playing cards with his jailers. On discovering that he cheated they kicked him out of jail.'* Koestler stresses that the pair of thought matrices which collided and brought forth Schopenhauer's joke can be found in any domain of creative activity and that they are also trivalent: The exact same pair of matrices can produce comic, tragic, or intellectually challenging effects, depending upon how they are evoked. This act of bringing together two seemingly incompatible frames of thought Koestler called 'bisociation,' a term that he coined in order to make a distinction between the routine skills of thinking on a single 'plane,' and the creative act; which, as he said, always operates on more than one plane. While the former state may be called single-minded, the latter is double-minded, a transitory state of unstable equilibrium where the balance of both emotion and thought is disturbed.

Koestler holds 'habit' (which he nevertheless acknowledges to be indispensable to living since it provides us with the ability to perform countless automated actions which are needed for survival) to be the biggest bane of original thought. According to Koestler, there are two ways of escaping such automated routines of thinking and behaving. The first is plunging into dream-like states in which the codes of rational thinking are suspended. The second way is also an escape – from boredom, stagnation, intellectual predicaments, and emotional frustration – but an escape in the opposite direction; signaled by the spontaneous flash of insight which shows a familiar situation or event in a new light, and elicits a new response to it. *"The bisociative act connects previously unconnected matrices of experience; it makes us 'understand what it is to be awake, to be living on several planes at once.' The first way of escape is a regression to earlier, more primitive levels of ideation, exemplified in the language of the dream; the second an ascent to a new, more complex level of mental evolution. Though seemingly opposed, the two processes turn out to be intimately related"* (Koestler 1964: 45).

Bisociation may be amplified in the digital environment. According to Koestler the mental state that elicits bisociation is playful, and since McCullough tells us that *"*a *chain of developments should be clear: play shapes learning; learning shapes the mind; mental structures shape software; and software data structures afford play"* (McCullough: 1996: 225); the three terms – play, creativity and computation – resonate strongly when placed together. Although this correlation can be applied to all domains in which computational creativity transpires, it is of particular value in the metaverse – a highly sophisticated data structure that is made tangible as a world that we can inhabit and in which 'play' rules supreme. And 'play' takes us back to the beginning of McCullough's circle – to learning, and in the specific case of this thesis to learning within the context of the creative fields – which, in their turn take us back to Arthur Koestler's definition of bisociation as the mind state of the creative act.

## *Presence and the Avatar*

The term 'metaverse' was coined by Neal Stephenson in 1992, in his novel 'Snowcrash,' where real world events are mixed with events that take place in a mass visited communal virtual world, in which individuals can interact with one another in a three dimensional landscape, and through three dimensionally embodied avatars. Each avatar is visible to all other users, and avatars interact with each other in this communal virtual space through software specified rules. Thus, the metaverse is a persistent, collectively shared online space that uses the metaphor of the real world, however without its physical limitations.

In his 2009 article Richard Bartle distinguishes between three different types of collective, persistent online spaces that he calls 'Dorothy Worlds,' 'Alice Worlds' and 'Wendy Worlds.' Alice's reaction to Wonderland was *'curiouser and curiouser.'* She was enchanted by the newness and wished to play in an open-ended world of new creations and experiences. Dorothy, the heroine of the 'Wizard of Oz,' on the other hand, immediately wanted to go back home, and mostly travelled along one track, the yellow brick road that would take her to her goal. And finally, Peter Pan's Wendy was a creator who crafted stories of Peter and Neverland for her younger brothers, thus creating content for others.

Bartle suggests that Dorothy-style games are about achievement and consequently have clear directions (relying almost exclusively on designer-created content), while Alice-style games are about exploration and discovery and as such are open and directionless (therefore in these some amount of user-generated content may also come into play), whereas Wendy-style games are explicitly about user-created content in which everything originates from the input of the user and almost nothing, outside of the bare basics upon which such content can be placed, is provided by the developers of the environment (Bartle 2009: 105–117).

The metaverse, by this definition is unequivocally a 'Wendy World,' which accounts for its difficulties as well as its appeal that are discussed in this chapter, as both a challenge and a

joy, by examining existence in such a 'Wendy World' through an investigation of how we come to be enmeshed into its fabric, what it is that gives us a sense of 'being there.'

**Being 'There'**

'Presence' is defined as a sense of 'being there' in a mediated environment (Ijsselsteijn et al 2000). Lombard and Ditton (1997) define it as an illusion of non-mediation in which a user no longer perceives the display medium as a separate entity. A high level of presence will help users in remembering a virtual environment as 'a place visited,' rather than as 'a place seen' (Slater et al 1999). Witmer and Singer's findings show that an important element when it comes to 'Presence' is focus, that virtual environments that provide foci, be they tasks or points of heightened activity to which a user is drawn will be far more successful than the ones that do not manage to do so (1998: 225–240). A successful state of 'being there' is also thought to be marked by behavior patterns that resemble those in the physical realm (Slater & Wilbur 1997), and by similar physiological responses (such as an increased heart rate) to those associated with a physical event (Meehan et al 2003).

A related term to 'Presence' is 'Immersion,' which seems to have gathered a wider usage. The terms 'Presence' or 'Immersion' should not be associated solely with three dimensional virtual environments, or indeed with any audio-visual media, since such mind states can also be achieved through reading a good novel; and indeed literary theory very often tends to provide models for immersion in contemporary gaming worlds, in which heightened states of engagement and immersion are called for (Ryan 1999).

One attribute to be considered when it comes to 'Presence' in virtual environments is sound. Effort is put into creating the visual setting in which virtual immersion is planned to occur, for visual splendor (or its realism) as the sole factor for becoming immersed within a virtual space. Research however shows that spatial/ambient sound is also a very important condition

when it comes to achieving ‘presence’ in virtual environments (Hendrix & Barfield 1996: 290–301; Whitelock et al 2000: 277-289).

A testimony to how important ambient sound is to a sense of ‘being there’ is the refusal of Second Life’s hard core residents to use voice communication, no matter how efficient this may be when compared to text based chatter. Since it was initially thought that concealment (particularly the hiding of gender) was a reason for this avoidance, recently Linden Labs has added a sound distorter to the voice interface that allows users to change the pitch of their voices. Nothing has changed – metaverse residents still do not like to use voice since the input of the spatial sound of the physical space that accompanies the voice of the speaker significantly takes away from one’s sense of presence given that the ambient sound of the ‘physical space’ belongs to a different place than the one that we are actually immersed in.

*Alternative worlds and Uexküll’s concept of the biological ‘Umwelt’*

When it comes to the metaverse, ‘Second Life,’ the name given to the best known of these virtual worlds may already suffice to ponder on the implications of an ‘alternative’ world. As such, it may be appropriate to consider whether the primary, physical world that we all inhabit by default is an objective external reality, and whether in and of itself ‘our world’ is nothing but one of many ‘alternative’ realities that exist simultaneously.

The biologist Jacob von Uexküll, who is frequently cited for his concept of the ‘Umwelt,’ considered how organisms subjectively perceive their environments and how this perception determines their behavior. He introduced the term ‘Umwelt’ in order to denote the subjective world of an organism in his book ‘Umwelt und Innenwelt der Tiere’ (1909). For him ‘Umwelt’ was the unique phenomenal world embracing each individual like a ‘soap bubble,’ and the individual organism is always actively creating its own specific ‘Umwelt.’ This process is determined by the animal’s design, its activity, and its needs (Rüting 2004: 11-16).

From Uexküll's findings it would appear that to think of virtual worlds in terms of an 'alternative' world may be something of a conceit, an over-statement, since the physical world that we perceive as human beings is not an objective reality in the biological sense – it is only an 'alternative' to what other species experience as their own objective realities.

One of the determinants of our own biological design, our activities and needs, may be said to be our compulsion for social engagement; which leads to the definitions of the term 'Presence' and its relevance to the immersive virtual experience that are discussed by Mantovani and Riva from just such a social perspective, when they challenge the notion that experiencing a simulated environment is only a matter of perceiving its objective features: 'Presence' (real or simulated) means that individuals perceive themselves, objects, as well as others, not only as situated in an external space but as immersed in a socio-cultural web connected through interactions between objects and people (Mantovani Riva 1999: 540 – 551).

Edward Castronova also suggests that social presence may be the biggest contributing factor to the sense of joy and satisfaction of being immersed in virtual worlds. Social interactions, the formation of close bonds and affections, belonging to wider peer groups and alliances, the attractions of social discourse, and joint memories and experiences, would seem to be vast enhancements that the social world of online gaming provides in contrast to the video game performed in isolation. Indeed such is the pull of the social factor in online presence that, when the future market strategies of video game producers are held under scrutiny, it becomes apparent that all major developers are planning to bring their consoles online within an immediately foreseeable future (Castronova 2007: 30–43).

*The 'Body-in-Code'*

The emphasis which Mantovani, Riva and Castronova place upon the importance of social interactions brings focus to the avatar.

Avatars are the beings who bring about the social interaction, which the authors above deem to be a potent factor when it comes to our becoming immersed within a three dimensional virtual world. This they achieve through software enabled behavior through which we, their inhabitants, both consciously and unconsciously use them in ways very similar to our material bodies (Damer 1997).

While the basic avatar is a human of any sex, avatars can have a wide range of physical attributes, and may be clothed or otherwise customized to produce a large variety of humanoid and other forms. Avatars may be completely creative or representational. Furthermore a single person may have multiple avatar accounts, i.e. 'alts.' Also, a single resident's appearance can vary at will, as avatars are very easily modified. Given that they visually portray an inhabitant and enable visual communication, Suler (1997) and Jeffrey and Mark (1998: 24-38) contend that avatar appearance is crucial for identity formation in virtual worlds. Avatars are able to move; they can manipulate objects, talk to each other and make gestures. Reid (1997: 197) describes them as a real person's proxy, puppet or delegate to an online environment.

A noteworthy contribution to the study of avatars comes from Nick Yee and Jeremy Bailenson who have established that there exists a forceful feedback loop between the avatar and the human handler that brings about an internal interaction between the two that operates in both directions. Through a study, named 'The Proteus Effect,' conducted between 2007 and 2009 they verified the profound nature of the relationship of the individual to his/her avatar: The findings of the 'Proteus Effect' show that the appearance of the avatar has a deep influence on our behavior and on our self-perception – not only in the virtual world itself, even more importantly this change is transferred into subsequent behavior and perceptions in real life as well: In effect, their findings show us that avatars go far beyond being mere puppets or even delegates and proxies, that they are psychological extensions whose power

and impact on the workings of our psyche needs to be taken into full account and deeply considered (Yee & Bailenson 2009: 285–312).

Although Yee and Bailenson state that this identification between human and avatar happens spontaneously, from the onset of the relationship, their research results differs from my findings since self-observation indicates that this relationship undergoes changes over time, that merely creating an avatar in a virtual world and 'using' the creature as a device for getting around will not accomplish such a heightened state of identification. This view is substantiated by Bartle, who in his book 'Designing Virtual Worlds,' writes of a transition in which players will move from an objective viewing of their virtual representations, what Bartle calls the 'avatar' stage; to an interim phase of identification that he calls becoming 'a character,' and from there to one of complete identification that he defines as the metamorphosis into a fully fledged 'persona' (Bartle 2004: 156–165). Thus, avatars in themselves, for Bartle, are *"mere conveniences – ways to effect change in a virtual world."* The next stage, according to Bartle comes when players stop thinking of the object they control as their representative, but rather as their representation, which brings on the character stage. However, Bartle's biggest transition goes beyond this, into the 'persona' stage:

> *"Avatars are dolls, characters are simulacra, but neither are people. The final level of immersion – the one which makes virtual worlds wholly different to anything else – is that of the persona.*
>
> *A persona is a player, in a world. That's in it. Any separate distinction of character is gone – the player is the character. You're not role-playing a being, you are that being; you're not assuming an identity, you are that identity; you're not projecting a self, you are that self. If you are killed in a fight, you don't feel that your character has died, you feel that you have died. There's no level of indirection, no filtering, no question: You are there."* (2004: 155)

A stimulating overview of the literature on the avatar that addresses this powerful state of identification through virtual embodiment comes from Benjamin Joerissen, who starts out by pointing at the correlation between the ideological affinity of the avatar and the human body:

Drawing upon Plato, as well as the Sanskrit meaning of the word avatar itself, Joerissen points out that within these doctrines the human body itself can be identified as the disparaged, earthbound hybrid carrier/avatar of higher, divine, non-physical attributes.

In a play upon McLuhan's famous statement *"the medium is the message,"* (McLuhan 1964) Joerissen continues to say that if soul is indeed 'form,' the body is then the medium within which form becomes corporeal and as such the body becomes the very message that it carries. However, according to Joerissen, a recent, post-Cartesian shift in the attributes with which an avatar is endowed is also noteworthy: In the post-humanistic world of artist Stelarc the avatar is no longer the belittled, lesser manifestation of the higher 'form' but rather the 'upload' of a perishable, mortal physicality into the mundus possibilis of a virtual, non-corporeal space; an agent in the realization of a 'cybernetic platonic' state wherein technology may overcome the shackles of mortality (Joerissen 2008: 277-295).

According to Joerissen viewing avatars as mere representational agents in virtual realms has become increasingly problematic over the past decade. Instead a holistic approach that weaves together the human handler, the representation thereof and the medium within which this representation materializes seems to be called for: In describing this hybrid actor whose virtual sojourn is a two way experience which can have profound influences on the human behind the keyboard, Joerissen also quotes Yee: *"Just as we choose our self-representations in virtual environments, our self representations shape our behaviors in their turn. These changes happen not over hours or weeks, but within minutes"* (Yee 2009).

Joerissen quotes Mark Hansen who points at a deep reaching biological/corporeal moment embedded within the virtual experience: Whilst placing the digital experience itself within the sensory organs of the biological body, Hansen ascribes a third element to digital embodiment, speaking of a *"body submitted to and constituted by an unavoidable and empowering technical deterritorialization,"* (Hansen 2006: 20) a *"body–in–code,"* that can

only be realized in association with technology, and that, in its turn, can lead to unexpected self-perceptions in the human handler. Indeed Hansen endows this novel constellation with the capability of increasing the field of influence of the human operator as an embodied being. Thus, Hansen predicts a re-definition of the potential of the biological body through virtual embodiment. (Joerissen 2008: 277-295)

Writing seven years before Mark Hansen, Frank Biocca points in the same direction when he notes upon a potential increase in the availability of kinesthetic and somatic interfaces which can be expected to vastly augment avatar agency into states of online hyperpresence:

> *"… it may be possible to develop a medium in which one feels greater 'access to the intelligence, intentions, and sensory impressions of another' than is possible in the most intimate face-to-face communication. Of course, it is hard for us now to imagine a medium that can create greater intimacy than face-to-face communication. But this misses the point of social presence and the very artifice of the body itself. … for example, inner states might be communicated more vividly through the use of sensors that can amplify subtle physiological or nonverbal cues. These can augment the intentional and unintentional cues used in interpersonal communication to assess the emotional states and intentions of others."* (Biocca 1999: 113–144)

The literature review above leads to a very important characteristic of the avatar: Once the process of identification has been completed to Bartle's persona stage, avatars may manifest creative properties through their own beings. This does not only mean superficial changes in their appearances, but something that goes significantly deeper – they become fully fledged heteronyms, with their own personalities, histories and creative activities; a state so significant that a large section is devoted to it later in this chapter.

## *Creativity and the Metaverse*

In this section, woven in with other aspects of the topic, the metaverse marketplace is discussed as a highly relevant locus when it comes to identifying how creative activity is elicited in the metaverse. This relevance should also be correlated to 'play,' since metaverse acquisitions appear to be 'toys' rather than vital purchases. While we do purchase many toys in our Real Lives also, there is also a noteworthy distinction between how our recreational

real life purchases and our metaverse purchases are used; suggesting that metaverse purchases are toys that are transformed into creative devices and are also often reworked into original artifacts by their users. Such a transformation is described below in relation to the term ‘produsage’ (Bruns: 2007).

According to Brian Sutton-Smith who links child phantasmagoria to imaginary play that in its turn elicits creativity – is indeed oftentimes a manifestation of creativity that comes into being as artwork which is based upon a playful mindset. Into this he also brings his findings on toys as devices that foster imaginary play in children (1997: 155–172). This thesis would like to posit that this is a state that is much in evidence amongst adult players in the metaverse as well.

The model which brings this to the fore more so than any other is Second Life, which made its debut in 2003 as the first metaverse that allows its users to retain the intellectual property rights of the virtual objects that they create within the structure of an online economy, one that is complete with all its instruments such as a competitive marketplace and a currency. Everything created in Second Life, from the formation of its very terrain to the architectural constructs placed thereupon, and down to the vast array of objects and wearables on sale and in usage is user-generated.

Outside of taking advantage of the economic activity, or the ensuing milieu of creativity provided by Second Life there is really not much point to residing there at all. The metaverse is not an easy environment to adapt to: The very absence of system defined content and purpose sees to it that a very steep learning and adaptation curve awaits the newly fledged resident. However, although the growth rate of the population of Second Life is nowhere near those of multi-user online gaming environments, whose content and purpose is largely defined by their game developers; there is still enough growth and success, demonstrated by

the fiscal results of in-world trading activity[29], to assert that Second Life is a noteworthy experiment in creative activity even when viewed from the standpoint of economic health indicators alone. Despite the difficulties that the world seems to be facing when it comes to recruiting new residents, the economic metrics are nonetheless still significant in their robustness: In the third quarter of 2011, there were an average of 475.000 monthly economic participants, playing with a L$[30] supply that was the equivalent of 29.3 million USD. The LindeX volume (the currency exchange service of Linden Labs) remained steady at 30 million USD; and web based sales that are transacted over a dedicated website maintained by Linden Labs came in at just under 1.2 million USD[31] [32].

One of the founding strategies behind Second Life was the notion that the virtual world would draw a cadre of elite content creators whose endeavor would be compelling enough to attract sizable numbers of players into joining the world to make usage of their output (Castronova 2007). While this early vision seems to have materialized to a certain extent, an unexpected development in terms of creative activity is also evident: What makes the world particularly attractive as a platform of creative expression is the largely unstructured, indeed sometimes emergent, nature of the artistic activity that the first-order user-generated content seems to breed quite spontaneously in its turn: Residents will combine output generated by others, sometimes with their own as well, to create extraordinary wearable collages and environments that have been assembled entirely or partially out of 'objets trouvés.' This conglomerated apparel, architecture and landscape as well as a diverse range of objects will then be utilized as points of trajectories for the creation of involved play/rituals, storytelling sessions, and fantasy role play which then become the incubators for the generation of personal artwork by their participants. Thus, far from being an activity held solely in the

*29 http://community.secondlife.com/t5/Featured-News/The-Second-Life-Economy-in-Q3-2011/ba-p/1166705*
*30 Linden Dollars are the currency of Second Life*
*31 http://community.secondlife.com/t5/Featured-News/The-Second-Life-Economy-in-Q3-2011/ba-p/1166705*
*32 My personal addition as a Second Life merchant to this metric is that in-world sales would have resulted in over 10 million USD, given my observation that only 1 out of 10 items are sold over the marketplace website, that the bulk of trade occurs in-world.*

hands of an elite cadre, creative activity in the metaverse seems to be materializing as a mass pursuit, forging its own way and devising its own procedures for personal expression.

**The Building Tools**

Although in its current embodiment the metaverse relies heavily upon its three dimensional attributes, the concept of a builders' world in which participants could create their personal artifacts goes back to the 1980s when 'Habitat,' a text based domain, was launched on Commodore; some years before Stephenson had coined the term 'metaverse.' Better known early versions of the genre however are 'Active Worlds' and 'There,' introduced in 1995 in 1998 respectively. Both of these three dimensional domains attempted to provide building tools for users so that they could create additional content to what was inherently provided by the game developers themselves.

Following this lineage Second Life, the first truly viable metaverse that was based upon a technological infrastructure robust enough to enable building activity to commence in the fullest sense of the term, was launched in 2003. One of the major reasons that Second Life succeeded where its forerunners had failed was the usage of a system of simple building blocks specifically designed for human-scale creation, bringing about a design principle that the creators of Second Life call 'atomistic construction.' These primitive objects constitute the atoms of Second Life and can be endlessly combined to build structures, and indeed behaviors through the scripts that can be embedded inside them. They are designed to support maximum creativity while still being simple enough for everyone to play with and use, in other words 'small pieces, loosely joined'[33] to create complex constructs of all descriptions, for a plethora purposes, indeed often carrying multiple purposes all at once.

What is also significant is that all metaverse objects exist in a physically simulated world, therefore resulting in fairly predictable behaviors. Such simulation allows new residents to

33 http://www.smallpieces.com/index.php

attain an intuitive understanding of how things operate within the virtual world in which they are now immersed by juxtaposing their real world experiences with the novel ones which they encounter upon entering the metaverse (Ondrejka 2008: 229–252).

However, no matter how much the building tools may be impressive in and of themselves, Linden Lab's dream of bringing about a world with a thriving population of builders, enmeshed in a fully operational virtual economy, would still not have materialized were it not for the intellectual property[34] rights with which the developers have enhanced the creative system. Indeed Second Life's decision to grant intellectual property rights to content creators is the foremost key to understanding the innovation and economic growth that the world has brought forth.

**Creativity as a way of life**

A most important attribute of builders' worlds is the circumstance that not only is their content user-defined and created, but also the purpose of residing in these worlds is entirely up to and decided upon by their users. The developers of these platforms provide no narrative that is to be followed; there are no system-defined goals or quests.

As a resident of nigh on five years my personal conclusion is that this also poses one of the built-in challenges to the system. While much has been said about the complexity of the interface as being a factor that accounts for the significant fall-out rate of new users, observation has shown that an even greater deterrent is that the 'magic feeling (of having) nowhere to go[35]' proves to be too irksome for most of those who decide to discontinue their sojourn in the metaverse, and usually very early on at that.

The only good reason to stay in the metaverse is to become creatively active in it, and unless one does so, no amount of shopping, chat and disco dancing, and maybe not even the much

*34 Within virtual worlds there is a noteworthy distinction from ownership in Real Life in that digital artifacts can only be intellectual property and not 'real' property.*
*35 The Beatles, Abbey Road, 'You never give me your money.' 1969*

publicized romantic liaisons and camaraderie of metaverse existence, may provide sufficient incentive for logging back in. In this sense the metaverse can, and should be understood first and foremost as a fascinating experiment in collaborative as well as individual creativity.

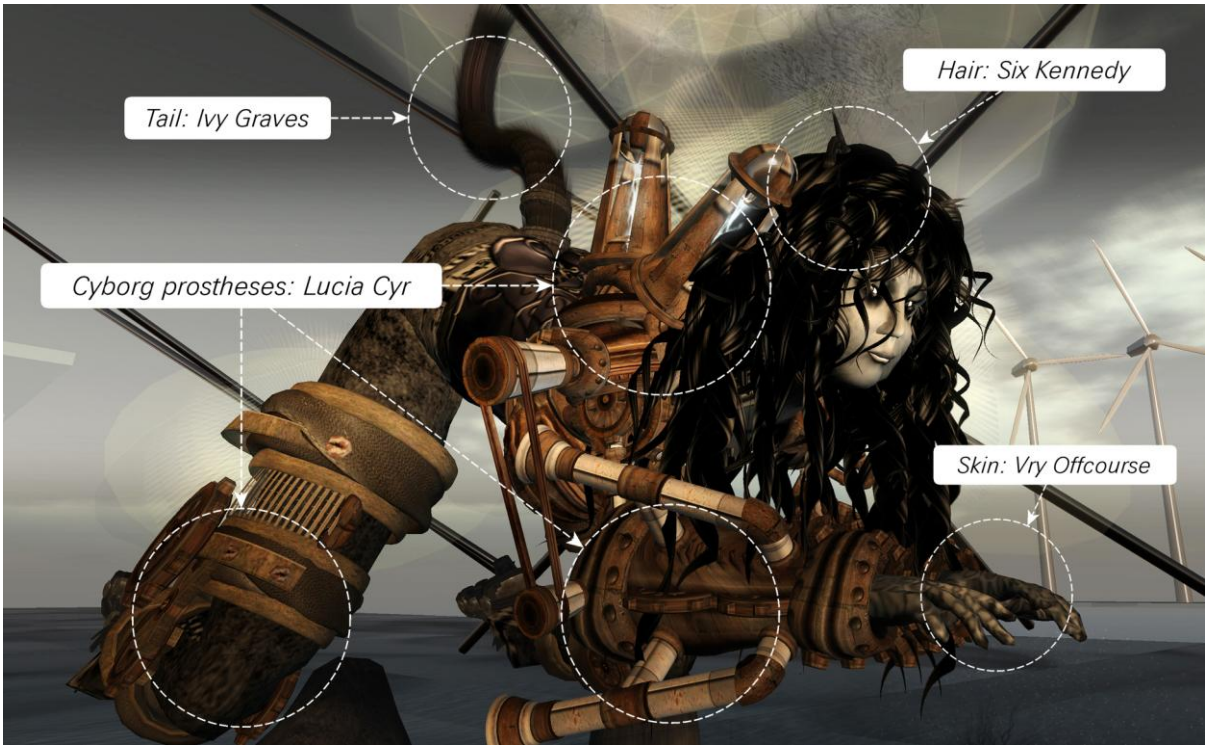


***Figure 21: "Metaverse Produsage" Elif Ayiter, 2010.***

This creative activity may need to be defined through novel terms that are yet to be coined, since the long-held ones may no longer be sufficient to explain the engagement that many full time residents of the metaverse demonstrate: Such engagement transforms visual art works into experiential, behavioral objects that become crucial components in creating the identities of our virtual extensions, our avatars and their domiciles. We no longer view art works as externalized objects, but rather we live inside and through our creations – we wear them, we reside in them, indeed we become them.

One of the prime demonstrations of Koestler's term 'bisociation' (in the visual creative fields) can be found in assemblages and collages that come into being through the combinations of found objects and the metaverse provides a uniquely rich platform for this type of creative output: While a relatively small percentage of content creators will work

‘from scratch,’ a far greater number will take advantage of the affordances of the metaverse’s economy and acquire building components from elsewhere, thus utilizing the output of others to realize their own creative contributions – that in their turn may well be transferred onto others, thus bringing about a seemingly endless chain of creative collaboration in which the previous link in the chain acts as a passive collaborator, a state that arises quite naturally through manipulations of his/her initial output by the new owner.

*Appropriation: An Assemblage of Toys?*

It would of course be widely off the mark to proclaim that what happens in the metaverse through the creative handling of found or purchased objects is indigenous to this world. Appropriation to this end is common throughout 20th century art, and has become one of the tenets of post-modern art; to the extent where Olivia Gude placed the concept within her 8 principles of post-modernist art education (2004: 6-13).

In ‘Art and Agency’ (1998: 30-31) Alfred Gell discusses the found object as part of a specific form of artistic activity, stating that in the idea of the ‘found object’ or the ‘ready-made,’ the artist does not so much ‘make’ as ‘recognize’ the particular cognitive index of the object. According to Gell, Western cultures seem to have a far more activist notion of artistic activity, whilst the Oriental approach esteems the ‘quietist’ mode of creativity, in which success attends those who open themselves to the inherent physiognomic appeal of the (naturally) found object.

Conversely, the usage of the found object by Western artists such as Duchamp are less passive, their selection being presented as pure acts of will on behalf the artist. Duchamp claimed that his ready-mades possessed ‘the beauty of indifference,’ that is, the objects used in their creation were selected on the grounds that nobody could possibly imagine that there could be any particular reason for them to have been selected in preference over others. However, having no reason to select ‘some thing’ as an object of ready-made art is in itself a

reason, since it is motivated by the need to avoid selecting anything for whose selection some reason might be proposed. By this account, even the purportedly arbitrary ready-mades of the Dadaists, forced themselves on these artists *"who responded to the appeal of their arbitrariness and anonymity, just as the Buddhist landscape artists responded to their mutely speaking boulders"* (Gell 1998: 31).

Western collage consists of reassembling preexisting images in such a way as to form a new image answering a poetic need. Max Ernst defined it as *"the chance encounter of two distant realities on an unsuitable level"* (Carrouges 1974: 171), a formula that also finds resonance in Lautréamont's proposition: *"Beautiful as the encounter of a sewing machine and an umbrella on a dissecting table, it gives us a remarkable method of triangulation that does not provide measures, but brings to the surface unrevealed mental images"* (1974: 171). Louis Aragon is also remembered as having said that collage is more reminiscent of the operations of magic than those of painting since it hinges on the artist's success in persuading us to recognize the connection of visual elements on the plane of poetry. Asked, if his collages were visible poetry Jean Arp replied *"Yes, this is poetry made through plastic means."* (Arp 1972)

It would be highly questionable to view the bulk of the content created by the population of Second Life in such a light as to do Jean Arp's words justice. However, when viewed in its entirety, as a way of life; it may again be foolhardy to disregard the cumulative creative endeavor in Second Life as the mere doodlings of a largely amateur society. While one cannot yet foresee the ultimate direction and outcome of the experiment, it is worth researching; not only in terms of what may materialize in the metaverse itself, but also in terms of how what materializes 'there' may in the end be of relevance to the artistic activity that occurs 'here,' in the physical realm.

What may also differentiate creative metaverse appropriation from its real life counterpart could lie in the purpose that instigated the acquisition: Personal experience and observation has revealed that purchases are not initially made with an artistic end product in mind; instead they are bought as toys first and foremost. These toys however, often become transformed, not only in their appearance but also, and more importantly, in their usage. In other words, it is the play state that brings on the creative mindset, much as it is also described by Brian Sutton-Smith (1997: 127-150).

This playful stance also makes creative output in the metaverse become 'behavioral' (Ascott: 2003: 109-123): Far from being work meant to be viewed and admired but not interfered with in any fundamental way, design output as well as art objects are manipulated, re-structured and combined with others as fits the needs of the present user; to suit specific needs.

There are also content creators who do in fact build everything themselves – prim by prim[36], use their own textures, write their own scripts, and even create their own sounds and animations. These designers and artists are the ones who constitute the first link of the long chain of creative activity that breeds other creative activity describe above. Their early efforts contribute to the current volume of the Second Life marketplace[37] that has reached millions upon millions of objects and tools[38].

**Produsage**

There is an enhanced new examination of this process that comes to pass through building upon (and enriching) previously existent content; based upon telematically enabled creative collaboration, defined as 'produsage' by Axel Bruns.

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*36 A prim is the atomistic building block of the metaverse – in its default state a wooden cube of 50 centimeter sides.*
*37 https://marketplace.secondlife.com/?lang=en-US*
*38 While I have been unable to find an official ballpark number for this, a search which I conducted for 'dress' yields 202784 results, and 'hair' stands 111141, while a query for 'flower' brings in 72933.*

In his book 'Blogs, Wikipedia, and Beyond,' Bruns goes explicitly into the correlation between content creation in Second Life and produsage, and notes upon the *"massively parallelized and decentralized creativity"* (2008: 1); which, for him, is one of the primary characteristics of the metaverse.

The terms 'produsage' and 'produser' bring together the words 'producer' and 'user' into novel hybrid configurations that describe the creative undertakings of collaborative, electronically based communities where the productive act takes place in a networked, participatory environment that breaks down the traditional boundaries between producers and consumers and instead enables all participants to be users as well as producers of information, artifacts and knowledge – frequently in the hybrid role of 'produser' where usage is necessarily also productive. In such building spaces the distinctions between producers and users of content have faded into comparative insignificance. Users are also producers of the shared knowledge base – they have therefore become produsers who do not engage in a traditional form of content production, but are instead involved in 'produsage' – the collaborative and continuous building and extending of existing content in the pursuit of further improvement.

Hence, the two most intrinsic properties of produsage can be described as follows: That the output is community-based and that within this community the roles of creator/user remain fluid and interchangeable at all times (Bruns 2007).

*The Unfinished Artifact*

One of the most compelling points which Bruns raises is related to the notion of the 'unfinished artifact' as the output of produsage: Given that the work involved in produsage entails a constant back and forth between the participants, such output is bound in a continuous process of transformation and improvement. Bruns explicates upon this by quoting Eno, who urged his readers to *"think of cultural products, or art works, or the*

*people who use them even, as being unfinished. Permanently unfinished. We come from a cultural heritage that says things have a 'nature,' and that this nature is fixed and describable. We find more and more that this idea is insupportable – the 'nature' of something is not by any means singular, and depends on where and when you find it, and what you want it for. The functional identity of things is a product of our interaction with them"* (Eno 1995).

While the physical world which is comprised of atoms is not conducive to such extended manipulations of material objects; the electronic environment with its building blocks of bits provides fertile ground for the existence of creations whose inherent nature is to remain in a perpetual state of being worked upon: Unlike atoms, bits remain malleable throughout their lifespan; and even though the lifespan of the bits themselves may be finite, the lifespan of the artifact itself can be infinitely extended by making novel copies of it. The outcomes are creative systems that, unlike their physical counterparts, can be endlessly improvised upon, altered, reworked and played with; and as such they appear to provide the constitutional material of all produsage. For Bruns the metaverse is a particularly compelling example to such perpetually evolving systems *"since the world remains permanently unfinished as participants move through it, [and] create content... the world of Second Life remains a process, not a product"* (2008: 299).

*Intellectual Property*

When it comes to intellectual property rights in the metaverse, Bruns notes how the property rights given by Linden Labs in Second Life served to introduce aspects of both communal based and individual ownership that created a strong basis for the development of its marketplace; which, Bruns says, provides an opportunity to share individual work whilst still maintaining ownership rights. Such a dual state of intellectual ownership, according to Bruns, provides one of the strongest incentives for produsage to unfold (2008: 299).

Bruns emphasizes that engagement with content that is in a continuous process of evolution and development requires new approaches to intellectual property rights. These he advocates to move towards a middle ground between the current strict legislation, and (on the opposite end) a full release of such content into the public domain: While a strict enforcement of intellectual ownership rights will tend to stifle the ability of later produsers to build on the work of their predecessors, for produsers to give up their legal and moral rights to be recognized and acknowledged as the creators of their intellectual property would also turn out to be counterproductive, since one of the main motivations remains as the ability to be seen as a distinct contributor to distributed produsage efforts (Bruns 2006: 275–284).

*Produsage and Economics*

From this it follows that produsage-oriented behavior poses significant, indeed insurmountable incompatibilities, when placed in juxtaposition to physical production systems due to the atom based nature of real life economic artifacts. Nonetheless, futurist Alvin Toffler had foreseen that significant changes to production systems were imminent in the physical realm as well, when he coined the term 'prosumer' in as early as the 1970s (Toffler 1971). Toffler pointed at the emergence of a novel group of informed consumers who would demand far greater individuation as well as considerable customizability from their purchases, which indicated a major shift from mass industrial production to a model of on-demand production of items that are essentially custom made – in the production of which the consumer may indeed even take a role as (one of) the producer(s) of the artifact.

During the 2010 interview, while discussing the Cybernetic Art Matrix, Ascott talked of the French cybernetician Louis Couffignall[39] who saw cybernetics as 'the art of effective action,' and who also talked at some length about an imminent change in mass production systems which would be a natural outcome of cybernation and that would bring with them a major change in consumer orientations and needs, since it would be eminently feasible to

39 http://pespmc1.vub.ac.be/macroscope/chap2.html

think about highly individuated products that could be built to custom specifications, however at mass production speeds and efficiency (Ascott 2010).

Despite its interest however, the concept of the 'prosumer,' or indeed Couffignall's forecasts (which incidentally, already seem to find their manifestation in the hardcopy outputs of digitally created products such as print-per-demand books as well as items such as printed t-shirts, customized gift items and so on) cannot provide the requisite framework for produsage which Bruns sees largely as an electronic phenomenon reliant upon allographic rather than autographic output for its consummation.

It is therefore additionally interesting to note that whilst physical economies appear to be incapable of sustaining such heightened levels of collaborative engagement due to the innately resistant nature of their materials, not all economies fall under this restriction: Virtual economies do carry the essential conditions for such undertakings; and of these the economies of three dimensional virtual worlds possess the additional fascination of being resplendent with artifacts which are simulations of real life objects that, just like their physical counterparts, are bought and sold on a competitive market that is based upon supply and demand.

One of the clearest overviews of virtual economies comes from the first chapter of Edward Castronova's book 'Exodus to the Virtual World' (2007: 6–14). Here Castronova writes on how these economies carry the potentiality of being highly impactful upon real life economic policies, especially through the principle of 'fun' that is embedded into their very being. Through this attribute, Castronova says, the physical world's economy may be likely to suffer loss to a degree that may bring forth a re-examination of its basic economic models vis-à-vis an impending mass exodus from the physical to the virtual realm and its markets. Although Castronova speaks about virtual economies as a whole, which naturally also includes the vast markets of gaming worlds and their gold based exchange systems, he does

set aside considerable space for the metaverse economic model as well, by narrating the business ventures of a hypothetical avatar in Second Life. Through this story Castronova lays out a cogent description of the entire process through which metaverse economies operate.

Accordingly it appears that, unlike gaming worlds which reside upon built-in objectives that then in their turn breed economic activity as their by-products, the metaverse is a model that rests primarily upon its economy, since it is the economy itself which brings forth the proliferation of virtual goods that inspire even further creativity.

Note: In order to show how the process works, how output breeds output, a visual documentation file presenting the photographic work in which my own design work was used by the customers of the fashion store alpha.tribe as a part of their own photographic work has been provided[40].

**Presence > Play > Produsage > ground<c>**

Produsage is suited Ascott's learning methods when it comes to answering the needs of a creative community that largely works under such an influence. Ascott's art learning method that puts behavior at the center of the stage, that looks at systems rather than objects and that is ultimately based upon dynamic relationships is one that may appeal to such a learner group.

Produsage is a system founded upon dynamic relationships – concepts that lie at the heart of Ascott's methodology. The creative actors enmeshed in this process inside the metaverse are not art students in the traditional meaning of the term, but rather they are members of a 'new leisured class,' that will increasingly pursue creative activity as a lifestyle. Ascott pointed at such a class while he was formulating the Cybernetic Art Matrix in 1966 (2003: 143). It is also crucial however, that in Ascott's vision, that the three learner groups who would move

*40 DVD > Appendix 1 > Chapter 5 > ayiter_Ch5_AT_alpha-tribe-produsage.pdf*

through the matrix (art students, professional artists and the leisured class) would be free to change roles. Thus, an amateur would be free to switch over to far more committed study whereas a professional artist could at any time become a student or vice versa. Yet another important aspect is that much of this creative activity that is undertaken within the chain of produsage described above occurs as a form of exploratory play that investigates 'identity' through the avatar. And again, 'identity' is one of Ascott's two essential learning contexts of the Cybernetic Art Matrix, while 'exploratory play' is one of his three learning contexts.

Thus, the proposal is for a learning environment, the primary focus of which is the creation and understanding of systems and their relationships, rather than the creation of discrete, beautiful art objects and the acquisition of the skills that go into making them; a creative platform on which 'identity' through 'avatar art' can be further explored and discussed. And conclusively, a creative learning environment that is *"not a rigid system but a flexible structure within which everything can find its place, every individual his way"* Ascott 1964, reprint 2003: 107)

## *Art in the Metaverse*

Creativity in the metaverse is at its most powerful when it is made as a part of the world in which it is meant to come into effect. These are best represented by the virtual ecologies and geographies that take into account the climate, the skies and the terrain of the world into which they are placed. Often they spread themselves over entire simulators and are built not as standalone artifacts but rather as immersive (and usually also perpetually changing) living spaces into which other avatars come for lengthy stays that may sometimes stretch themselves over many days over even weeks.

While many of these environments are not built as art spaces, and instead can be locations that are used for diverse purposes such as shopping, recreation, education and entertainment; some of them have also been specifically created as artworks. There are many excellent

examples to these, such as 'Der Schauer'[41] by Selavy Oh, Bryn Oh's famed island 'Immersiva,'[42] Claudia Jewell's 'Screamer' island[43], and the collaborative art ecology of CapCat Ragu and Meilo Minotaur called 'Delicatessen'[44]. My own islands 'alpha.tribe'[45] and 'Syncretia'[46] were also created along these lines; and I have also collaborated with two other artists, Max Moswitzer and Selavy Oh on what has become a well established metaverse art ecology – 'LPDT2[47],' that has been shown at several juried and curated international art exhibitions in physical gallery spaces as well.

***Figure 22: "Der Schauer." Selavy Oh, 2011 – 2012.[48]***

Standalone artworks do not really become a part of the fabric of the virtual world in which they have come about – not only in terms of their display, but even more importantly in terms of their social contributions to the culture of the metaverse. Similarly, performance art works, theater productions, and installations that attempt to bring together Real and Second Life are usually not parts of art ecologies either, as these are made for real life, and not the metaverse – that during their realization the metaverse has only provided the requisite

*41 http://www.flickr.com/photos/mabmacmoragh/6988647501/in/photostream*
*42 http://www.flickr.com/photos/plingplingpling_bing/4317890043/*
*43 http://www.flickr.com/photos/eupalinos/6857875183/*
*44 http://www.flickr.com/photos/capcatragu/4705294835/in/set-72157623901780749*
*45 Appendix 1 DVD > Chapter 5 > ayiter_Ch5_AA_alphatribe-island.pdf*
*46 Appendix 1 DVD > Chapter 5 > ayiter_Ch5_AA_syncretia.pdf*
*47 http://lpdt2.blogspot.com/*
*48 Image courtesy of Selavy Oh.*

software and has provisionally 'lent' the artist the 'agency' of its 'avatar,' who is used in a manner that is somewhat akin to the usage of an NPC[49], operating as the mediator between these two worlds. Other than the usage of these affordances, the actual raison d'être of the virtual world is being bypassed entirely in most RL/SL mergers.

**The Tower and the Quest**

An example to art ecologies is 'The Tower and the Quest,' a collaborative project between Norwegian storyteller Heidi Dahlsveen and myself that we built together in 2009, as the result of an offer to participate as invited artists in an annual art festival organized by Linden Labs in Second Life. This event receives its name as well as its overall concept from the U.S. Burning Man festival in real life. During the two weeks that the tower was up in Burning Life 2009 in Second Life it attracted several thousand visitors who used the tower for play and for creative activity.

***Figure 23: "The Tower and the Quest." Elif Ayiter and Heidi Dahlsveen, 2009.***

Although the tower was an art ecology, it was also something more than that; primarily conceived of as a location for 'avatar art,' built around the concept of the avatar as a storyteller. To this end we provided stages, costumes, sounds and animations with which

*49 Non-Player-Character: http://wiki.guildwars.com/wiki/Non-player_character*

narratives could be constructed, enacted and also transformed into other types of artistic productions such as video, photo narratives and writing. The visiting avatars did in fact produce a large body of diverse work out of the tower project. The architecture was documented, both at its initial location, and then also more extensively at the island Syncretia to where the project was moved after the festival, and where it continued to receive visitors for a further year and a half.

Images of my personal documentation, as well as a small sampling of the visual material that was generated by the visiting avatars, can be seen in the file placed in this footnote[50].

**'Avatar Art'**

Metaverse art is largely reliant on activity that revolves around the avatar. While the art islands of the metaverse are noteworthy, what is created in these locations is not as captivating from a conceptual point of view as 'avatar art' is:

The transition from autographic to allographic output, discussed elsewhere in this thesis, has brought forth a dramatic new component to an old game – the creation of novel and/or alternative identities. While, until recently, these became actuated mostly in the realm of literature, that is to say on the mental plane of words; the three dimensional avatar of virtual worlds may now be enabling us to create novel identities that are also visual beings, complete with virtually embodied personas that may aid in underscoring their psychic distinctiveness.

These beings that emanate from us – and yet may or may not be 'us' – proceed to create their own complex existences, form their own circles of acquaintances, their own unique life-styles culminating in their own tales and narratives. They frequently exhibit idiosyncrasies of their own, and engage in their own willful behavior, which also manifests as highly elaborate 'play.' Such games come complete with toys and outfits such as

*50 Appendix 1 DVD > Chapter 5 > ayiter_Ch5_AA_MM-FR_tower-and-the-quest.pdf*

elaborate doll's houses, the vehicles to get around with; as well as an arsenal of practical jokes, gestures and animations, nukes, and other diverse armory – everything from fully detailed Uzis to farmyard guard-geese that will ruthlessly chase and bite trespassing avatars into total submission.

These playful avatars are one of the most intriguing exposures of creative activity in the metaverse, and an exposition of such playful activities is provided in the appendix of this thesis[51]. One of the ways in which such play is generated is through a most beguiling attribute – the ability that they give their human owners to create constellations and pantheons coming forth as a distribution of many 'selves' through 'alt' avatars.

## *The Play of the 'Selves'*

Paul Harris describes children's 'role play' using externalized objects, such as dolls or other toy artifacts, as a prop for projecting different personas with which a child will fully identify for as long as the play session is in progress; saying that children *"create such characters out of thin air, positioning them at various points in their actual environment"* (Harris 2000: 34). According to Harris, these extended play sessions do not need to involve multiple players; indeed they are most often performed by a child playing in isolation. Role play, says Harris, is further striking since children will temporarily immerse themselves fully into the identity, or indeed concurrent identities, which they create; also often shifting their moods and their tone of voice in ways that are appropriate to the part(s) which they are enacting.

This description may serve to explain the fascination that adult metaverse players exhibit when it comes to 'alt' avatars, through whom such doll play sessions that evoke 'role play' through multiple personas also comes into being. Harris's description may be incomplete; what may be at work with both children playing with dolls, as well as adults 'playing' with

*51 Appendix 1 DVD > Chapter 5 > ayiter_Ch5_00_Avatar-Ludens.pdf*

alt avatars may be more complex; that we may in fact be playing with the multiple facets of what is commonly held to be our singular and unified 'self.'[52]

'Alt' avatars are the second, third, fourth, […] avatars that are owned by a single human being. Creating an 'alt' involves creating a new account with the metaverse service provider. To do so one creates a new email address to which the unique metaverse account will need to be linked in order to become operational. Thus, once the email account has been created all that remains is to re-join the metaverse under a new name. From all this it follows that an alt avatar is not simply an avatar who is dressed differently, but rather what is at work is the creation of a whole new identity.

Reasons why alt avatars are so popular are described by Tom Boellstorff who has noted that most alt avatars are created to perform in full isolation since they are usually created for distinct reasons such as the pursuit of concentrated creative activity, the management of funds, or the testing of new design work. Solitary sightseeing and exploratory activities are also amongst the reasons that Boellstorff gives for the creation of alt avatars. Such avatars can be defined as private alts through whom a resident seeks to escape the social network temporarily in order to accomplish a specific task in an uninterrupted manner (Boellstorff 2008: 128-134). Although they are private, most residents will not hesitate to acknowledge their existence, however they will not give out their names since this would take away from the overall efficiency of the agent who has been created for a particular reason that necessitates solitude and anonymity.

The willing acknowledgement of an alt's existence alters when it comes to the 'social alt,' since this is a being whose raison d'être is distinctly different from that of the 'private alt' described above. Since social alts are created to operate as independent entities, in most cases an individual who has social alts will not disclose that such a multitude of creatures of

*52 Roy Ascott on the notion of the 'unified self:' http://tinyurl.com/c4w8dy4*

his own creation even exist, since such a revelation might make them appear to be appendages of the main avatar rather than their own discrete persons.

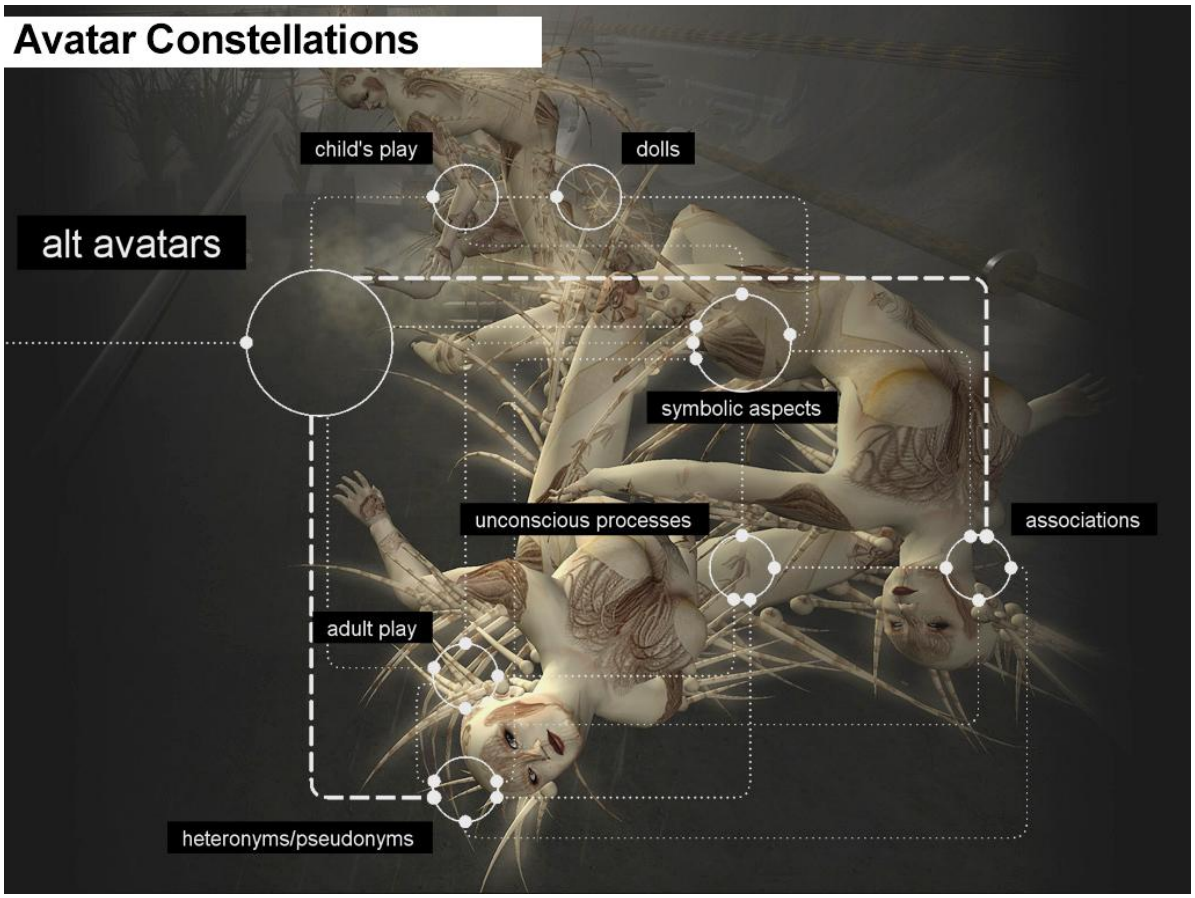


***Figure 24: "Avatar Constellations." Elif Ayiter, 2011.***

Needless to say, 'social alts' are by far the more intriguing since, just like the main avatar, they are created to live independently rather than serve some pre-determined function that is dictated by specialized needs. Social alts fully engage in all social interactions, albeit of a different nature than those of the main avatar. According to Boellstorff they operate in such a way that *"the more fundamental personality of the real person is still driving in the background but filtered through a different surface persona"* (2008: 132). Social alt avatars may equally be created with the aim of exploring the multiple 'selves' that are embedded within the psyches of their owners; and as such they may exhibit pronounced differences in

behavior and outlook[53]. In some cases social alt avatars will have entirely autonomous lives, moving in social circles that can be similar or very different from those of the main avatar. However, equally common are shared social lives between the main avatar and any number of his or her social alts.

The appearance of the social alt avatar is especially significant when it is considered next to the appearance of the main avatar. Typically, but not invariably, the main avatar is designed to look like or at least be the idealized version of the real life persona. Conversely, social alt avatars can manifest in vastly different shapes of both sexes. They can also be androgynous and may often possess non-human attributes. Very often these deviations from the physical attributes of the human being behind the keyboard are so pronounced that virtual world residents often refer to their social alt avatars as a 'costume' or a 'mask,' thus emphasizing the difference between their real life selves and the alternative persona they project through the social alt (2004: 133). Furthermore, social alts can also be expert shape shifters, manifesting in many diverse forms within a few hours, if not indeed minutes.

In short, avatars carry the potential for becoming creative entities/beings in their own rights; and through the multiple identities that a single individual may acquire through them are now also becoming the players of a game that has been ongoing for many hundreds of years. Thus the following sub-section will be about the multiple creative self that is evidenced in creative fields, and most prominently in literature.

**Pseudonyms and Heteronyms**

In a chapter dedicated to the 'Rhetorics of the Self,' Sutton-Smith points at the Renaissance literary theory of the 'selves' that was exemplified in the writings of Rabelais, Machiavelli, Erasmus and Cervantes, and that was followed a few centuries later by a group of writers

*53 Please go to Appendix 1 DVD > Chapter 6 > ayiter_Ch6_03a_EA_the-avatars-of-alpha-tribe.pdf for my personal experiences in this regard.*

who are held to be the representatives of the 'ludic self' in seventeenth century English literature (Sutton-Smith 1997: 175-176).

Although Sutton-Smith does not specifically note upon multiple selves expressed through multiple identities in the shape of pseudonyms, the impact that a splitting of the creative self into several discrete personas may have upon creative enablement is to be discussed.

*Pseudoynms*

Working under an assumed name can be found in many walks of life, including politics where as an example it is known that the names of both 'Lenin' and 'Trotsky' were made up by individuals who were called Vladimir Ilyich Ulyanov and Lev Davidovich Bronshtein respectively. A similar appearance of the assumed name can be seen in stage names that actors or other public figures acquire; usually to prettify or distinguish a given name, as would be the case with Norma Jean Baker who re-invented herself as Marilyn Monroe.

A well known occurrence is that criminals may use aliases, fictitious business names, and monikers. And when it comes to financial crime, large scale dummy corporations operating under fictitious identities can be considered to be adaptations of the concept as well. On yet another front, when it comes to illicit activity and computation, hackers also work under 'handles' that conceal their true identities from their pursuers. Similar reasons that result from the need to evade detection have also resulted in the creation of pseudonyms on the military front, such as the noms de guerre that were adopted by the members of the French resistance during World War II for security reasons.

Although these are all cases in which assumed names are used for various purposes, none of them are instances in which a second identity is used as a pseudonym that demonstrates creative activity as an entity that is distinctly separate from the holder of the orthonym (given name).

Where creative pseudonyms are mostly commonly found is in literature, also bringing with them the concept of a multiple creative identity, a notion that appears to have been much in vogue within the literary circles of their times. Thus, during the eighteenth century, the practice of writing under at least one (and in many cases several) noms de plume seems to have been the rule rather than the exception for European novelists. And similarly in Islamic culture it was also considered to be the height of literary elegance and prowess to be able to write stylistically variegated poetry under multiple pseudonyms that were known as 'maslah.'

Female novelists in England throughout the eighteenth and nineteenth centuries frequently wrote under assumed male names, as has been the case with Maryann Evans, aka George Eliot, and the Bronte sisters writing as the Bell, Acton, Currer and Ellis brothers. While it may be natural to think that the motive here was to avoid gender prejudice, this notion would seem to be contradicted by Jane Austen who, more or less around the same time, published 'Sense and Sensibility' under the authorship of 'a Lady' – specifically not 'a Gentleman' – indicating that considerations other than the disclosure of gender may also have been at work with the female novelists who chose to write under assumed names during that era (Brennan and Pettit 2003: 139-157).

An account in which the name of a real person was usurped as a hoax, and later developed into a fully fledged literary persona in his own right, is given by David Chandler who wrote in 2007 on how the Victorian writer Charles Lamb had stolen the name 'Elia,' which Lamb confides to his publisher in a letter written in 1821:

> *Poor ELIA, the real, (for I am but a counterfeit,) is dead. The fact is, a person of that name, an Italian, was a fellow clerk of mine at the South Sea House, thirty years ago, when the characters I described there existed, but had left it like myself many years ago; and I having a brother [John Lamb] now there, and doubting how he might relish certain descriptions in it, I clapt down the name of Elia to it, which passed off pretty well, for Elia himself added the function of an author to that of a scrivener, like myself.*

> *I went the other day (not having seen him for a year) to laugh over with him at my usurpation of his name, and found him, alas! no more than a name, for he died of consumption eleven months ago, and I knew not of it.*
>
> *So the name has fairly devolved to me, I think; and 'tis all he has left me.* (Chandler: 2007)

Chandler further elucidates the Lamb/Elia case by quoting from two scholars: E.V. Lucas noted Lamb's reference to a 'real' Elia, and remarked on *'the difference between the comparative thinness of Lamb's pre-Elian writings and the Elian richness and colour.'* Lucas adopted the theory that by *'affecting to be someone else Lamb was led to a dramatic viewpoint which freed his imagination.'* This achieved, Lamb forgot Elia altogether, or rather assimilated him, retaining what had already become second nature to him. F.V. Morley, writing in 1932, read Elia rather differently as the culmination of a division in Lamb which had been developing since at least the early 1800s saying that: *"We see in Lamb's early 1800s letters on the one hand an original personality, which becomes more and more silent as hope is lost; on the other an assumed character, which becomes more and more vocal as defense is needed. When the second character has developed sufficiently, we shall find it labeled Elia."* (Chandler, 2007)

Yet another bewildering case of a literary hoax is Mark Twain who spread a rumor concerning his output, proclaiming that there were in fact two authors in question who were unrelated to one another, both of whom were named Mark Twain through sheer coincidence, publishing entirely different books. Thus Mark Twain remains a literary enigma, who to this day is not celebrated as the powerful and pessimistic thinker that he really was, but rather, as the incorrigible and prolific humorist; the author of Tom Sawyer and Huckleberry Finn, instead of the creator of 'What Is Man?' or 'The Mysterious Stranger' (Dreiser 1935: 615-627). What makes the case of Mark Twain even more intriguing however is that the name 'Mark Twain' was itself a pseudonym that had been created by Samuel Langhorne Clemens – who incidentally did not conceal his affiliation with Mark Twain, the humorist, however insisted that he did not know the other Mark Twain.

A very well known pseudonym belongs to Oxford mathematician Charles Dodgson who published his literary output as Lewis Carroll. On the other hand the cases of Stendhal and Voltaire are startling through their sheer numbers: Voltaire wrote under 176 names, while Stendhal (a pseudonym to begin with) had as many as 200, including that of Henri Brulard, writing as whom he even published his own biography.

The dyad of Marcel Duchamp and Rrose Sélavy is a notable example of an alternative identity in the 20th century: Rrose Sélavy came into being as the female model of a series of photographs which Man Ray took of Duchamp, and later continued her existence as the author of some of Duchamp's writings, as well as giving her name to some of his visual artifacts such as the sculpture 'Why Not Sneeze, Rrose Sélavy?'

When it comes to the visual arts in general however, there are noticeably few artists who worked under assumed names, and in most of these cases these are not creative pseudonyms in the proper sense of the word, but rather are more in the nature of 'handles' or 'nicknames.' These may often also be acronyms, inversions or abbreviations of the given name. Such are the cases of French comics artist Jean Giraud, who worked under the handle of 'Mœbius' and also often abbreviated his full name to 'Gir;' and of Julius Pincas, who was known as 'Pascin,' which was of course an inversion of his last name. Of note is also Victorian landscape painter Francis Jamieson who worked under several assumed names for purely pecuniary reasons since he was under a legal contract to paint solely for his patron, and saw signing his paintings with invented names as a way out of this financial bondage.

*Heteronyms*

When it comes to an examination of the multiplicity of the self for purposes of creative play Fernando Pessoa's heteronyms should be considered at the centre of the stage. Not only did Pessoa write as Bernardo Soares, Alberto Caeiro, Ricardo Reis, Alvaro de Campos but he claimed that these were not mere pseudonyms since it was not just their names that were

different to his. Rather, they were fully fledged ‘others,’ with uniquely developed individuated personalities and appearances of their own, whom their inventor called ‘heteronyms’ (Zenith, 2001). Showing commonalities with Yeats’s ‘masks’ or Pound’s ‘personae,’ the four independent authors also wrote essays on one another, including commentaries on Pessoa’s own writing. Such indeed, was their disparity that Pessoa even created elaborate horoscopes through which he charted their individual futures independently of his own.

Nonetheless, the heteronyms were not simply a game; they were a highly intellectualized construction that occupied Pessoa’s entire adult life. One of their important functions was to enable him to exhibit mastery over a range of styles and traditions and to experiment with different aesthetic positions. Thus their individual styles can be classified as ‘pagan,’ ‘neoclassic,’ ‘romantic’ and ‘modernist’ (Sadlier 1998: 75).

When he died on November 30, 1935, the newspapers of his native city Lisbon paid tribute to the ‘great Portuguese poet’ Fernando Pessoa, who was born in Lisbon in 1888. He was remembered for a book of forty-four poems published in 1934, and for some 160 additional poems published in magazines and journals, several of which he had helped to found and run. His true legacy however, remained concealed in a trunk in which the author had deposited twenty-nine notebooks and thousands upon thousands of manuscript sheets containing two novels, countless unpublished poems, unfinished plays and short stories, translations, linguistic analyses, horoscopes, and nonfictional texts on a vast range of topics. The pages were written in Portuguese and English as well as in French, very often in an almost illegible script. The most surprising discovery however, was that Pessoa wrote not under four or five personas but under close to fifty, some of whom were also English and French.

Pessoa had the peculiarity of publishing his poetry under different names besides his own. These were false personalities, with biographies, points of view, appearances, and literary styles that differed from Pessoa's. They were names that belonged to invented others, whom their creator called 'heteronyms,' and who were the co-travelers of a voyage of self-discovery, or self-invention which he worded as *"to pretend is to know oneself,"* an existential circumnavigation that would not end until Pessoa did.

'Pretending' was actuated through discrete personalities lived by the author within himself, and were given expression through the books which they authored and to the contents of which Pessoa did not claim ownership of. Nor did he necessarily agree or disagree with what was in their prose and poetry, saying that 'they' wrote through him as if he were being dictated to. Indeed in his most extreme proclamations regarding this literary content, Pessoa claims that the human author of these books has no personality of his own. *"Whenever he feels a personality well up inside, he quickly realizes that this new being, though similar, is distinct from him – an intellectual son, perhaps, with inherited characteristics, but also with differences that make him someone else… As the helpless slave of his multiplied self, it would be useless for him to agree with one or the other theory about the written results of that multiplication."* (Pessoa writing as Bernardo Soares, quoted in Zenith: 2001: 2)

> *"Pessoa was a creator god standing at the centre of his orbiting creatures, who were themselves creators, or sub-creators, with Pessoa's literary works circling them as satellites. It was a dynamic system, in which all the elements interacted, meaning that even the apparently finished works were in truth fragments, since they were only what they were (and still are) in relationship to the rest of the system. The only whole thing, Pessoa's one perfect work, was the system in its totality"* (Zenith 2001: xvii).

Although Pessoa resolutely maintained the autonomy of the heteronyms, nonetheless he tacitly acknowledged that he was the owner of the overall literary system that he created through their writings, when he divulged that he may have been only contributing *"… to my own amusement (which would already be good enough for me)"* (2001: 3) in this way also defining his creative act as 'play.' This acknowledgement is tragically furthered when he

expresses the deep seated loneliness out of which these alternative selves have manifested as the quenchers of a thirst for companionship, for playmates:

> *"In view of the current dearth of literature, what can a man of genius do but convert himself into a literature? Given the dearth of people he can get along with, what can a man of sensibility do but invent his own friends, or at least his intellectual companions?"* (2001: 4)

The heteronyms came from disparate backgrounds, were endowed with their own genealogies and interests, and practiced different professions. The circumstances under which some of them met one another, and how one of them, Alvaro de Campos, met Pessoa himself was also described in minute detail. Through them Pessoa aimed to bring forth a literary/philosophical movement in Portugal. Pessoa wrote extensively about their meetings and the lengthy discussions and debates about 'neopaganism' which was to be the conceptual basis of their movement.

One of Pessoa's most remarkable proclamations concerns the physical manifestations of his heteronyms, which were vastly differentiated, and which he perfected to the extent where in his mind's eye he could see them with enormous clarity and in great detail. The following is a long quote from Zenith's book on the prose of Pessoa that is reproduced here in its entirety despite its length, since it illustrates his lucidity in a way which cannot easily be replicated:

> *"I can still see, with a clarity of soul that memory's tears don't cloud, because this seeing isn't external. ... I see him before me as I saw him that first time and as I will perhaps always see him: first of all those blue eyes of a child who has no fear, then the already somewhat prominent cheekbones, his pale complexion, and his strange Greek air, which was a calmness from within, not something in his outward expression or features. His almost luxuriant hair was blond, but in a dim light it looked brownish. He was medium to tall in height but with low, hunched shoulders. His visage was white, his smile was true to itself, and so too his voice, whose tone didn't try to express anything beyond the words being said – a voice neither loud nor soft, just clear, without designs or hesitations or inhibitions. Those blue eyes couldn't stop gazing. If our observation noticed anything strange, it was his forehead – not high, but imposingly white. I repeat: it was the whiteness of his forehead, even whiter than his pale face that endowed him with majesty. His hands were a bit slender, but not too, and he had a wide palm. The expression of his mouth, which was the last thing one noticed, as if speaking were less than existing for this man, consisted of the kind of smile we ascribe in poetry to beautiful inanimate things, merely because they please us – flowers, sprawling fields, sunlit waters. A smile for existing, not for talking to us. My*

> *master, my master, who died so young! I see him again in this mere shadow that's me, in the memory that my dead self retains…"* (Pessoa writing as Alvaro de Campos, 'The Memory of my Master Caeiro,' quoted in Zenith 2001: 39)

This haunting description of a man, who existed only in the mind of his creator, came into being through the extraordinary powers of imagination and visualization that it would take an author of the caliber of Pessoa to bring about. While for most of us such a feat would probably be quite inconceivable if we were expected to sustain it solely as a mental construct, a tangible being that has recently materialized within the digital medium of bits may well open the doors to applying such a quest – albeit at different levels and for differentiated purposes to Pessoa's: The three dimensionally embodied avatar may make concrete what for Pessoa materialized on the pure abstract plane of his imagination.

**Avatars as Heteronyms**

From all of the above it is amply evident that assuming multiple identities or spreading one's very being over many 'selves' is an age-old game to which doing the same with avatars will only add a new component. One of the significant contributions that avatars make to the discussion of the 'play of the selves,' resides in the circumstance that while we identify with our virtual representations to the extent where (once a 'persona' by Bartle's definition has been formed) the boundaries between our physical and our virtual selves seem to blur to quite a remarkable degree (Bartle 2004: 156–165). However, no matter how strong this identification may be, the avatar still resolutely stands outside of us; is not an internalized being that has to rely upon our physical apparatus to become materialized. We can therefore observe our representation through the avatar as a tangibly visualized and externalized manifestation, while at the same time still being 'inside' the body of our avatar from an emotional point of view. This brings a very bizarre twist to the conundrum of the 'play of the selves,' that may even bring about some fundamental changes as to how the game plays out – especially from a creative point of view, and especially so when the whole notion of the heteronym is brought into the visual realm.

***Figure 25: "The Encounter." Elif Ayiter, 2011.***

Throughout their histories creative pseudonyms and heteronyms appear to have made their appearances most significantly within the realm of literature. When this is examined in the light of Huizinga's thoughts regarding how the plastic arts do not seem to be good activity fields for 'play' to unfold in; it may become apparent that pseudonyms and heteronyms are indeed creative devices that take most, if not all, of their raison d'être, their strengths, and their meanings from 'play.'

Adding McCullough's observations that relate to Goodman's definitions of the autographic (visual) and allographic (notational) artwork suggests that what has come into effect is that digitally created (autographic) visual artwork is now being transformed through the symbol language of the computer into (allographic) notational artwork (McCullough 1996: 213–

215); concluding that the three dimensional embodied virtual avatar is a visual being that is supremely, unequivocally digital!

If such a quest exists amongst metaverse residents[54] – then the learning system for such an endeavor has already been formulated 50 years ago by Ascott. The footnote in the previous sentence gives the location of a file in the appendix DVD in which holds the adventures of the avatars Eupalinos Ugajin and Naxos Loon that will substantiate the suggestion that viewing the 'self' as a creative potentiality through the avatar is already in evidence in the metaverse.

*54 Appendix 1 DVD > Chapter 5 > ayiter_Ch5_EU_NL_wondrous-tales.pdf*

# VI. Observing 'Me'

> *"This purposes a decisive shift of emphasis in our aesthetic sensibilities. A shift that is endorsed by the observed behavioral tendency of modern art; a shift, in short, towards an art of system and process. This implies that [the] appreciation [] that it induces in us, resides in our perception and awareness of a system rather than an object. There is no reason to suppose that the art of process should be any less visual or poetic or musical than the art object or art of object. Beauty can reside in relationships of structured processes, as well as in the traditional relationships of fixed parts in a product's structure. Beauty thus defined, in which space is shaped by time and form relates to function, is the beauty of a cybernetic vision."* (Ascott 2003: 139)

This chapter presents three projects which I undertook in the metaverse over the past 5 years of this research, as illustrations of the self-directed art learning strategy that is proposed in this thesis. All of them have come out of play sessions, such as the ones described in the appendix of this thesis under the title of 'Avatar Ludens.' All of them relate to 'process' and to 'systems' rather than discrete 'objects.' Together they constitute a pilot study of this model.

The projects were self-instigated and therefore in none of these projects tutors who supervised and directed me through their suggestions and input were involved. They were based upon a close examination of the Groundcourse, and in that sense it can be said that Ascott was my tutor 'in absentia.' Although he followed the progress from a distance through the material that was placed online in creative sharing domains, he did not intervene in the process itself or make suggestions at any time. Future ground<c> students may also choose this route and embark upon projects that are entirely self-motivated and self-directed, based upon their own readings of the Groundcourse's learning strategies. However, for those

who wish for tutorials and feedbacks, the proposed system will set up a structure in which tutors and students do come together, and that is described in the last chapter.

While all three projects are self-observational, two of them are single player set-ups in which I am the sole observer of a system that I have brought into being, in which I play by myself – in one of them through many personas that make up a psychic entity composed of multiple 'selves.' The first of these single player projects, 'The Avatar of the Uncanny Valley,' involves two entities – my biological self and my virtual 'persona' (Bartle 2004: 156), my all important main avatar Alpha Auer[55]. The second project however, is a far more complex set-up with a total of six entities in the game – again my biological self who this time is joined by five of my many avatars – Alpha and four others; who are my fashion designer 'selves' that jointly operate a fashion enterprise in Second Life, known under the brand name of 'alpha.tribe'[56]. While both projects are primarily reliant upon my own emotional input, thus eliciting and observing interactions between 'me, myself and I,' in both cases interaction with others is also much in evidence – especially so in the latter one, where 'we' are continuously engaged in interactions with the many customers who frequent 'our' shop.

The third project in this chapter, 'Avatar Narcissus,' chronologically stands between the 'The Avatar of the Uncanny Valley,' and 'alpha.tribe,' and will therefore also be covered in that order; that is as the second one in the following text. This project consists of two sister installations that have been created as 'playgrounds' for the usage of others, as much as I have put them at the disposal of my own virtual personas. They are in fact two of only three standalone constructs that do not blend in with the world's geography and climate that I have ever created in the metaverse; in other words they were conceived of as specific art installations that aim to cut off the visitor/participant from the rest of the virtual world and its ecology. While I will not be discussing any output (such as architecture or other types of discrete objects that do not become directly attached to the body of the avatar) in either of

55 http://alphaauer.wordpress.com/
56 http://alphatribe.tumblr.com/

the primarily self-observational projects outlined in the previous paragraph, in the case of 'Avatar Narcissus' the architecture and the animation system of the 'playground' in which the tale unfolds is an integral part of the project; and through these I will be going into metaverse architecture and animations to some extent. However, as the name will already imply, with 'Avatar Narcissus,' as much as with the other two projects in this chapter, my emphasis is still firmly upon the role of the avatar.

## *The Avatar of the Uncanny Valley*

> *The abject is not an object facing me, which I name or imagine. Nor is it an object, an otherness ceaselessly fleeing in a systematic quest of desire. What is abject is not my correlative, which, providing me with someone or something else as support, would allow me to be more or less detached and autonomous. The abject has only one quality of the object – that of being opposed to the 'I.'* (Kristeva 1982)

The concept of the Uncanny Valley that was introduced by Masahiro Mori into the field of robotics in 1970 deals with just such a conundrum: How do we react when we encounter beings whose embodiment is very similar to that of our own – and yet they are possessed of a not-quite-thereness that in its most extreme states may raise an unsettling closeness to things such as corpses or zombies? Is this a state that is too close for comfort? And when we are confronted with it do not we feel a deep rooted abjection toward this 'thing' that may be perceived as *"not an object facing me, which I name or imagine"* (1982); in other words, not as an object that has a clearly marked 'otherness' to the extent where I can successfully externalize it.

Mori's hypothesis is linked to Ernst Jentsch's concept of 'The Uncanny'; identified in his 1906 article, 'On the Psychology of the Uncanny'; which later also inspired Sigmund Freud to write his famed 1919 essay, 'The Uncanny'; the latter being a discourse on the aesthetics evoked through such a state. Jentsch relays to us that a perception of the uncanny results from *"an intellectual uncertainty,"* relating it to occurrences such as those that would

engender *"doubts as to whether an apparently animate being is really alive; or conversely, whether a lifeless object might not be in fact animate"* (Jentsch, 1906: 203 – 205).

Freud elaborates on the uncanny with the aid of a lexical survey that seeks out the etymological connections between the German words Unheimlich (Uncanny) and Heimlich (homely or secret). Through the double meaning of the latter word he demonstrates that the concepts might be far more closely connected to one another than would have been initially anticipated: *"It may be true that the uncanny (unheimlich) is something which is secretly familiar (heimlich), which has undergone repression and then returned from it"* (Freud, 1919). Freud places the repressions in two areas of the subconscious: The part of our selves that underneath a thin veneer of enlightened civilization is still very closely bound to the primordial/atavistic and secondly in the part that is in the realm of infant sexuality. One of the most valuable observations that Freud makes on the subject however, is related not directly to the uncanny entity itself but to the context within which it is actually encountered. Thus he points out that entities that are not perceived as even remotely uncanny in fairy tales, acquire ominous significations when encountered in a setting of literary works that place their subject matter within realistic settings into which the same or very similar uncanny elements are inserted.

Mori's findings established that as a robot becomes more human-like, the emotional response from a human being to the robot will become increasingly positive and empathic – until a point is reached beyond which the response quickly becomes that of a strong repulsion. However, as the appearance and the motion of the robot continue to become even less distinguishable from a human being, the emotional response becomes positive once more and approaches human-to-human empathy levels.

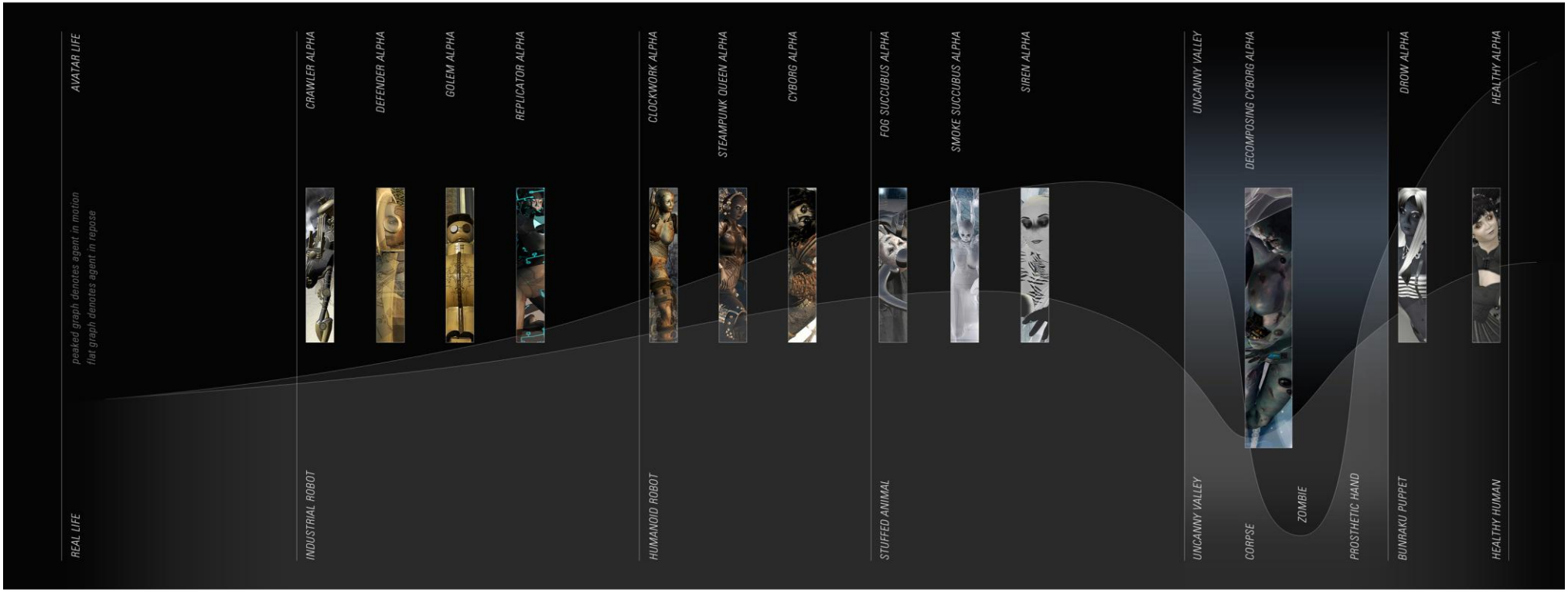


*Figure 26: "The graph of the Uncanny Avatar." Elif Ayiter, 2012*

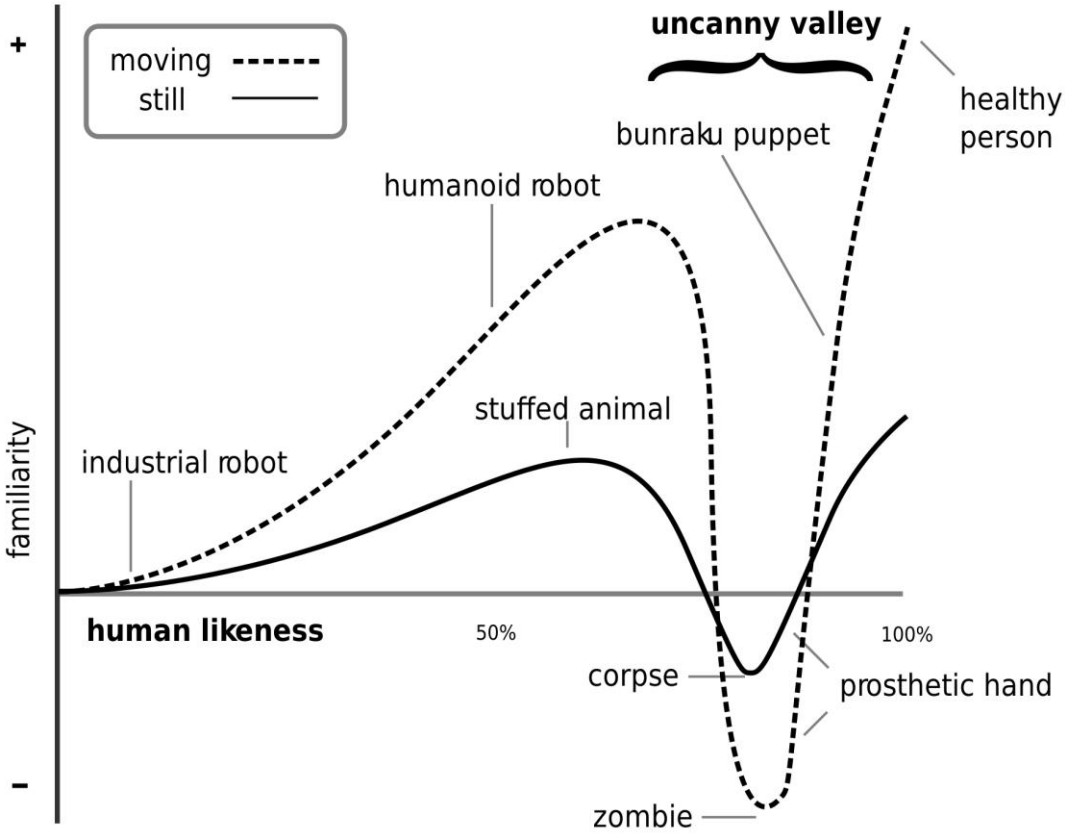


***Figure 27: Masahiro Mori's graph of the Uncanny Valley[57].***

Thus, the curve of Mori's famous graph of the Uncanny Valley does not follow a sure, steady upward trend. Instead, there is the formation of a smooth peak as the resemblance of the robotic agent moves increasingly towards humanness; however this peak is immediately followed by a deep chasm that plunges below neutrality into a strongly negative response before rebounding to a second peak where the resemblance to humanness is complete. Mori called this area of repulsion aroused by a robot situated between the 'barely-human' and the 'fully human' the 'Uncanny Valley,' representing the dip in the graph at which the observer sees something that is nearly human, but just enough off-kilter to be eerie or disquieting. The preceding peak, however, is where the perception is of an entity, human enough to arouse

[57] *Graph courtesy of Wikimedia Commons: http://en.wikipedia.org/w/index.php?title=File:Mori_Uncanny_Valley.svg&page=1*

some level of empathy, while yet remaining clearly non-human enough to avoid a sense of confusion and wrongness (Mori, 1970: 33 – 35).

Jentsch's concept of the twilight zone of intellectual uncertainty regarding the 'aliveness' of a 'thing' finds further reflection in Tomlinson (2000: 316-335), who suggests that these responses also occur when confronted not only with biological beings, but also with computational devices in which there appear to be antromorphical attributes that may often compel their users to associate life and death states with hardware and software.

Contemporary research into the Uncanny Valley is conducted predominantly in Robotics and Cognitive Science, with considerable overlap between the fields; indeed to the extent that Hiroshi Ishiguro has coined the term Android Science to describe this interdisciplinary framework: *"The approach from robotics tries to build very humanlike robots based on knowledge from cognitive science. The approach from cognitive science uses the robot for verifying hypotheses for understanding humans. We call this cross-interdisciplinary framework android science"* (Ishiguro, 2006: 2-9). However, other fields of computer science are certainly involved as well: The relevance of the Uncanny Valley to the issue of 'Presence,' is expounded upon by Brenton, who remarks that *"as immersive environments grow increasingly realistic they may themselves generate a type of Uncanny Valley response thus far only reported when observing virtual humans"* (2005), again in a sense picking up on the Freudian theme of environmental context in relation to the uncanny.

Freud places the uncanny into the domain of aesthetics and indeed aesthetics seems to have created an interesting merger with Robotics. Thus, Hanson argues that *"Although the uncanny exists, the inherent, unavoidable dip (or valley) may be an illusion. Extremely abstract robots can be uncanny if the aesthetic is off, as can cosmetically atypical humans. Thus, the uncanny occupies a continuum ranging from the abstract to the real, although norms of acceptability may narrow as one approaches human likeness. However, if the*

*aesthetic is right, any level of realism or abstraction can be appealing. If so, then avoiding or creating an uncanny effect just depends on the quality of the aesthetic design, regardless of the level of realism"* (Hanson 2006).

**Uncanny Alpha**

The idea to use Mori's concept as the basis for a process based art work in which I would observe, document and write upon the psychic changes that came about as a result of changing the appearance of my avatar Alpha took hold. At this point I had been a resident of Second Life for just over a year but had already become a competent builder, and my creative activities in the metaverse were almost exclusively grounded in externalized building.

Although I had been much preoccupied with my relationship with Alpha, I had yet to embark upon manipulating the avatar as an artifact, most likely because I was simply too wrapped up in my virtual persona to consider it as an entity that could be worked with/upon in such a manner, that an extension of my 'self' held the potential to become an art work in its own right. That said, I was already aware that Alpha held a strange dichotomy, one begging for further investigation, embedded within her very being: She was both 'me' and yet 'not me' – and furthermore she was the only one occupying this overpowering role at that time since I did not yet have alt avatars through which I could have shifted my attention away from her. What made Alpha so fascinating was also the fact that through her I was attaining a most unexpected recognition as an artist/writer: Alpha was the renowned builder of Syncretia, fast becoming a metaverse celebrity, whose output was written up in the many art blogs of Second Life, who in fact became the co-author of what was the best known, and widest read art blog of Second Life at the time, the 'Not Possible in Real Life' blog[58], founded by avatar Bettina Tizzy (Beverly Millson in Real Life) in 2007. Throughout this time, as my sole extension in the metaverse, Alpha's appearance was as identical to my own

58 http://npirl.blogspot.com/

as I could possibly get her to be: Although she was younger than me, nonetheless she looked like me, she most certainly dressed like me, usually clad in black jeans, hiking boots and a black tshirt as I also often appear in Real Life – albeit with minor modifications such as having grown a neko[59] tail and ears at some point of our joint life. These however, were no major deviations from 'me,' given my life-long association and deep empathy with cats.

That I had accomplished Bartle's transition (2004: 156 – 165) to the full persona state through Alpha seems to be obvious in retrospect. The fact that Alpha was such a close replication of my physical self probably intensified the transition as well, given that a close (if somewhat idealized) replication of the biological self has been noted upon by Neustaedter and Fedorovskaya (2009: 183 -190), as well as by Messinger et al (2008); who have all established that a significant proportion of players in virtual worlds, such as Second Life, tend to create idealized representations of their biological bodies. This would indicate that such an appearance is preferred because of its tendency to bring about a close identification between the player and the virtual extension of his/her 'self,' easing Bartle's transition described above.

Alpha does not deviate from this pattern and is hence a look-alike avatar. Since there appeared to be significant bonding and identification as a result of this resemblance between us, the assignment which I gave myself was to investigate the limits of this bonding through the creation of a series of appearances who would still look like me but be differentiated enough to appear to be non-human and/or off kilter enough to evoke a negative response that might potentially result in the loosening of the bond. I also have to say at this juncture that given the strength of the bond between us, this was not an easy decision. If anything it felt like stepping off a mental precipice to embark upon the project.

Reading Kristeva's text as a literary masterpiece, and applying a regimen of transformation in which, at the point when Mori's graph took the dip, 'I' would become a personification of

59 http://virtualneko.com/

revulsion and horror to 'myself,' are two different mindsets altogether. This is not something to be contemplated lightheartedly, and I most certainly did not do so either. Nonetheless, my fascination outweighed my misgivings and over the course of the next month Alpha metamorphosed into a series of personalities that ranged from mythological creatures such as a siren and two succubuses to a steampunk queen of extreme adornment and beauty; and from various mechanoid, or semi-android/mechanoid beings to a decomposing/dead body.

The transformation was achieved through purchases made in Second Life. Most of them came from two remarkable stores in Second Life: Grendel's Children[60] and The Bare Rose[61]. While I used some of these exactly in the way in which the original designer had made them, others I worked upon quite a bit by changing their textures, in some cases even by relocating their components. In this sense 'The Avatar of the Uncanny Valley' is also a very good metaverse example to Brun's term 'produsage' (Bruns 2007). In all new personas the emphasis was based upon physical attributes and emotional connotations that would bring about a spectrum that ranged from complete distantiation to complete identification between me and Alpha. I documented the various uncanny incarnations of Alpha through photographs and I also kept an emotional response log, part of which was published online as photo captions that accompanied the photographs on Flickr.

The resultant documentation consists of a set of 148 images on Flickr[62], which are only a selection that I made from a much bigger collection that is located on a harddrive. For this thesis, an even smaller selection has been compiled into a pdf file that can be viewed at the address in this footnote[63]. To provide further clarification, the images that I placed inside this pdf file also have small legends that show at what position of Mori's graph Alpha is located while the photograph was taken. Additionally I have made a 10 minute long video in which I

*60 http://grendelschildren.net/*
*61 http://toriheart.blogspot.com/*
*62 http://www.flickr.com/photos/alpha_auer/sets/72157605718766594/*
*63 DVD > Appendix 1 > Chapter 6 > ayiter_Ch6_AA_01_the-avatar-of-the-uncanny.pdf*

brought some of these images together with a soundscape. This video can also be viewed inside the appendix DVD at the location of this footnote[64].

## *Avatar Narcissus: Anatomia and body.parts*

> *"That which you behold is but the shadow of a reflected form and has no substance of its own. With you it comes, with you it stays, and with you it will go..."* (Ovid, Metamorphoses)

This project consisted of two environments that were deliberately cut off visually from the geography of the metaverse by means of two huge, hollowed out, floating spheres inside of which they were placed. One environment was called 'Anatomia' and its counterpart was 'body.parts.' Both were built in early 2009 and remained on the island Syncretia until the end of 2010. They were photographed and blogged about, not only by me but also by the many avatars who came and played inside the spheres during the two years in which they were around. I have put together visual documentations for both of them, as separate files[65] [66] which can be found inside the appendix DVD at the addresses given in the footnotes in this sentence. I have also provided video files for both of these installations[67] [68].

'Anatomia,' came out of my fascination for scientific drawings and especially anatomical drawings – their cleanness and dispassionateness about a subject which is far from being so efficiently removed from us – our very innards. Notable exception to this rule of mechanical precision in their rendition that separates flesh from human suffering are Andreas Vesalius's illustration in 'De humani corporis fabrica[69]' in which the surgical precision needed for anatomical examination is combined with a visualization of the agony of the soul that is subjected to such a scrutiny. At the opposite end of the spectrum of detachment however are Dr. Gray's anatomical drawings that were collected in his book 'Gray's Anatomy' (1858)[70].

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*64 DVD > Appendix 1 > Chapter 6 >ayiter_Ch6_AA_01_the-avatar-of-the-uncanny-valley.mov*
*65 DVD > Appendix 1 > Chapter 6 > ayiter_Ch6_02a_AA_avatar-narcissus_anatomia.pdf*
*66 DVD > Appendix 1 > Chapter 6 > ayiter_Ch6_02a_AA_avatar-narcissus_body-parts.pdf*
*67 DVD > Appendix 1 > Chapter 6 > ayiter_ Ch6_02a_AA_avatar-narcissus_anatomia.mov*
*68 DVD > Appendix 1 > Chapter 6 > ayiter_ Ch6_02a_AA_avatar-narcissus_body-parts.mov*
*69 http://archive.nlm.nih.gov/proj/ttp/flash/vesalius/vesalius.html*
*70 http://www.bartleby.com/107/*

Once in Second Life, the cold-hearted beauty of most anatomical drawings (particularly those of Dr. Gray's) finds a very bizarre mirroring in the body of the avatar – a being that gives us the same sense of infallibility, the same perfection; which in the case of the avatar is brought about through the precision of code.

***Figure 28: "Anatomia." Elif Ayiter, 2009.***

This congenital perfection that results through the code of the avatar, and the mind state of the human being behind the keyboard whose perception and usage of his/her virtual representation is usually based upon this perfection, troubled me: Avatars are mostly beautiful, and they are also mostly young – this second attribute being largely caused by the considerable restrictions of the appearance editor of the metaverse viewer in this regard: One of the biggest challenges in creating avatar appearances is to make a convincing 'mature' or 'elderly' avatar.

Avatars are usually seen as the vehicles for attaining a sense of perpetual youth, through the illusion of health and indestructibility that they bring about in their users. They are used as very effective devices for denying the inevitable reality of the frailty and the transient nature of the human body itself, and this had become quite bothersome to me. In all of this I was as reliant upon self-observation as I was upon my observation of others – if not indeed more so:

Alpha does look like me. Thus, in my particular case, more so than her physical appearance I was enthralled by her agility, by her ability to fly, by the way in which she could effortlessly undertake physical tasks such as jumping, falling from great heights and being able to get up all in one graceful motion, by the way in which she could dance gracefully and endlessly. And also of course, the fact that the similarity of appearance between us ends where age is concerned was also enticing. I loved to 'be' this creature that was an eternally young version of me.

Based upon these considerations above, I wished to create an experiential environment along the convictions of John Dewey, quoted in the introduction chapter of the thesis; to create places that would aspire to create a socio-cultural presence as defined by Mantovani and Riva, and from which the visitor might depart retaining a sense of *"a place visited"* as opposed to *"a place seen"* (Slater 1999: 603 – 616).

Taking into account the studies conducted by Yee and Bailenson (2007, 2009) that underlined the paramount importance of the avatar in the engenderment of such a sense of presence; both the installations were based upon the central figure of the avatar, who would be attired with custom designed costumes and skins with which the visitor was expected to enter these installations, neither one of which, in my view, reached its full potential unless these costumes and skins were utilized.

With these ideas in mind I decided to go back to 'Anatomia' and rebuild it in Second Life – in this instance by juxtaposing an avatar against the cold, perfect, mechanistic properties of Gray's drawings. However, I did not want visitors to access the space with their own (mostly) perfect bodies. Instead, as already mentioned in the above paragraph, I made an avatar ensemble that was site specific and would serve the purpose of creating a rift between what was on the walls and the virtual being wandering amongst them, and with whom we identify to such a large extent. This avatar ensemble ended up being a creature whose very

appearance would bring about a perception of the messiness of the organic matter of which our physical bodies are made out of. Visitors to the space were asked to put on this costume, that consisted of a male/female skin and many attachments made out of bones, and other biological artifacts (such as horns, feathers, fur, hair and so on), as they entered the space.

This space was the inside of a huge floating sphere which was black and hollowed out and that was placed on the island Syncretia, located very near its sibling space 'body.parts,' that I started to work on at about the same time. Once inside the Anatomia sphere, visiting avatars could engage in a virtual dance macabre by using the many 'poseballs'[71] that were filled with animations and poses for this purpose, and that were scattered amongst the 'museum' panels festooned with Dr. Gray's precise drawings of the insides of the human body[72]. The aim was to bring about an awareness of the ensuing differentiation between the appearance and the poses of the avatar and the surrounding sterility, thus hoping that some questions regarding this contrast would arise in the minds of the visitors.

'Anatomia' was a space intended for solitary, introverted reflection concerning the fragility of the human body; hence I created only one avatar (available in either sex) for this space. It was this site specific avatar that the visitor was expected to wear whilst interacting with the space through a dance macabre that he/she could personally choreograph through the sequential usage of animated pose balls placed in profusion inside the installation. This process was to help attain a sense of split between what one is actually composed of anatomically and what one is surrounded by, that is by the mechanically precise, perfect renditions of one's fragile physical substance. The aim was to create an awareness of the fate that humanity shares with all living entities, that is indeed this very fragility and ultimate demise. The anatomical drawings that were mapped onto the bodies of the male/female avatars of 'Anatomia' were thus rendered in the earthen hues of corrosion, these being

*71 A 'poseball' is a small object (which often becomes invisible when an avatar accesses it by sitting on it) that is used to bring about poses and animations in the metaverse.*
*72 Permissions for the usage of the drawings was obtained from Bartelby Publishers in early 2009.*

complemented with body attachments created out of exposed bone structure, horns and frayed, feather-like anatomical drawings; all of which were assembled to resemble biologically decaying elements.

***Figure 29: "body.parts." Elif Ayiter, 2009.***

Conversely, the second installation 'body.parts,' urged the visitor to celebrate life by looking outwards, through connecting with the virtual body of another. Consequently, this installation needed two participating avatars, both of whom were asked to dress in custom designed skins adorned with attachments, in order to conduct a virtual pas-de-deux of heightened emotional intimacy not readily manifest in the metaverse otherwise. To this end, the avatars had the caressing hands of their virtual partner painted onto their own skins, while soft, tentacle-like human limbs reached out from their own bodies towards the other. However, the couple was not alone in that they were also surrounded by a conglomeration of sculpted human body parts melting into one another. This mass of physicality was expected to create a sense of heightened connectivity through which the dancing couple might transcend into a state of collective consciousness, as would have been the case during ancient Dionysian rites. Again, a profusion of animated pose balls were utilized, but in this instance these balls were paired up to create intimate couple poses that enforced prolonged eye contact and the invasion of interpersonal distance, the Real Life observances surrounding both of which are strenuously observed in virtual life as well, as is also

discussed by Yee and Bailenson in their article ‘The Unbearable Likeness of Being Digital’ (Yee 2007).

Although the two projects were instigated separately, they soon became sister installations, given that they both addressed the issue of corporeality in a (non)physical environment. Additionally, the installations carried similar concepts in that both were challenges to acknowledge corporeality, albeit through different means and within entirely different contexts. To this end the two installations were placed in close proximity to one another, housed in huge enclosed sky borne spheres, entirely separated from the geography of Second Life. While the ‘Anatomia’ sphere was black, the ‘body.parts’ sphere was white, which, together with the participating avatars, got a pink hue from the custom sunset sky settings of the land upon which they had been placed. Both spheres were created as stages in which a particular dance had been choreographed, a solitary dance macabre for ‘Anatomia’ and a romantic waltz for ‘body.parts.’ However, visiting avatars were at liberty to modify this pre-set choreography by accessing the provided pose balls in a sequence of their own creation.

Given the importance of the existence of the audio element in the overall immersive experience (Hendrix 1996: 290 – 301), both spheres had custom created soundscapes embedded into them: While a dull, persistent heartbeat, superimposed upon a hollow, ambient spatial sound provided the underlying audio theme for “Anatomia,” a series of barely audible whispers and water gurgles accompanied the sequence of events at the ‘body.parts’ location.

What was aimed at in both locations, as well as with both sets of avatars was a challenge: Connecting on an emotional level in one and becoming aware of one’s own fragility in the other; both undertaken in a world (the metaverse) that nurtures the illusions of eternal youth, if not indeed immortality on the one hand and full impersonality, if not anonymity in the face of emotional entanglements on the other.

Aside from being visited by several thousand avatars in Second Life during the 2 years that the sphere remained in-world, 'Anatomia' and 'body.parts' were also both exhibited in 2009 in Real Life: Anatomia in Victoria, British Columbia, at the 'Computational Aesthetics' exhibition curated by Steve Gibson; and 'body.parts' at the A-m-b-e-r Electronic Art Festival, curated by Ekmel Ertan in Istanbul[73]. The artist's statements that accompanied these exhibitions can be found in the appendix DVD at this footnote[74].

## *alpha.tribe*

> *"My journey of self discovery is worthwhile, if for no other reason than for '... my own amusement which would already be good enough for me.'(Pessoa, quoted in Zenith 2001)"* (Ayiter 2012)

An altogether more lighthearted, although significantly more complex self-observational exercise is alpha.tribe, which has been ongoing for the past three years in Second Life and involves a fashion emporium by the same name that is operated by 5 alt avatars all belonging to one individual, myself. alpha.tribe was set up to investigate whether the consistency of the creative self is in fact a given and whether it might not be challenged. Thus five of my alt avatars, of both sexes, human as well as non-human, have pooled their resources in the operation of a design enterprise, within which each virtual identity pursues his/her own line of creative inquiry, culminating in different lines/styles of apparel.

The self-observational process that I engaged upon with project alpha.tribe bears certain similarities to Pessoa's life-long undertaking: Like the heteronyms of Pessoa, my avatars have pronouncedly different appearances that have also been refined over time. However unlike Pessoa, for whom the embodiment of his heteronyms was a process of pure inner visualization, the population of alpha.tribe can be personified quite tangibly through their three dimensionally evinced bodies. Similar to Pessoa's multiple identities, the avatars of alpha.tribe have different dispositions, preferences and tastes; are thus often at odds with one

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*73 http://09.amberfestival.org/*
*74 DVD > Appendix 1 > Chapter 6 > ayiter_Ch6_02_Avatar-Narcissus_Artists-Statements.pdf*

another; allegiances and animosities being formed, dissolved and shifted between the 5 designers, all of whom reside within my psyche.

**An Avatar Constellation**

My psychic system of avatars has emerged spontaneously over the past three years. Their creation was not a deliberate act that I planned for future art-making purposes: In the summer of 2008 a parting of the ways with some close friends in the metaverse left me to my own devices. I knew of alt avatars that were alternative identity avatars through which many metaverse residents operated independently of their main avatars; however up until then I had not felt the need to create such autonomous personas that would materialize as facets of myself. Alas, suddenly being alone in a world of strangers, I decided that a good way to circumvent loneliness and ennui would be to create my own play companions.

I will now let my main avatar Alpha talk further about why her alternative identities came into being:

> *"I did not use to have them – alts I mean. I was way too engrossed with my 'second' life and all of the countless events that would make every day hilarious. I was having a riot and there really was not much time for introspection. And in the end, I think that alts are all about introspection, an inward journey. At least that is what they are to me. Something changed over the summer. I still do not know why, it is not something that I can understand or change. And at that point the alts started to materialize. In the end, an utter manifestation of my loneliness."* (Ayiter 2008: 135)

As I have previously mentioned, my main avatar Alpha is a so-called 'look alike': I have spent countless hours replicating my physical appearance on her since I wanted her to be a true extension of myself, reflecting my conscious personality, or at least my understanding of it. When it came to creating the 'alt' avatars however, my instinct told me to take a different route and to bring about personas that did not look like me. Thus, the first one, Xiamara Ugajin turned out to be a big blond Valkyrie with an asymmetrical face that is nevertheless startlingly attractive and expressive. Through her appearance she stands in almost direct opposition to my own dark physique, and mostly symmetrical facial structure.

***Figure 30: "alpha.tribe publicity photograph." Elif Ayiter, 2010.***

Over the first few weeks of her existence, and through a mental process that eludes me to this day, Xiamara started to get away from me, started developing personality traits, opinions and mannerism that I was not consciously aware of having within my psyche. With something akin to horror (since ultimately she was an aspect of me that I had brought into being as an externalized personality through the avatar) I observed her evolve into a

pompous belle of the ball, who never put a foot wrong in public, a perpetually self possessed lady, overly given to preaching and firmly held didactic opinions.

That appearance does in fact play a significant part not only in identity creation but also in identity fragmentation, or the splitting of the 'self' into novel sovereign persona, is exemplified by the vivid descriptions which Pessoa gave of the highly individualized physical properties of his heteronyms. Although I had not yet read Pessoa at that time, I still developed a strong hunch that Xiamara's breaking away from me as drastically as she did might have had to do with the differences in our respective appearances. Fascinated, I decided to probe further and proceeded to create other avatars whose appearances I deliberately worked upon to be as discretely individuated as I could possibly get them to be. Unsurprisingly, just like Xiamara, they escaped my jurisdiction and evolved into their own personalities. What has emerged are five individuals who are my main representations in Second Life today. With all of them the psychic separation from me occurred imperceptibly and gradually, with no deliberate intervention or cajoling on my part:

> *"I am at the point where I am feeling them as completely separate persons. They are stand-alone entities with different preoccupations and thoughts. Which is very strange. They originated from some part of me, surely they are me? But, it is definitely not how this all feels, how the game is progressing here. And, funnily enough, meeting with them, hanging out with them, is proving to be yet another incentive to stay in Second Life. Perhaps maybe even the strongest one*?"(Ayiter 2008: 135)

My three other 'selves' are Grapho Fullstop who is a beautifully-ugly and highly introverted man; Alpho Fullstop, who is an outspoken, no-nonsense female furry (an animal-human hybrid); and Amina Diavolo, a rather devious personage, whose Italianate beauty of aquiline refinement is a pronounced improvement over my own (and Alpha's) small featured sallow looks – no matter how much the personality concealed behind her limpid gaze may leave to be desired.

In as early as 1996 Suler remarks upon the practice of creating multiple identities in virtual worlds, relating this to the condition that we all have different sides to our identity. Social

psychologists would call them our 'social roles' that surface in the variety of situations and relationships that make up our lives. *"Psychoanalysts would describe them as the constellation of 'introjects,' 'internalizations,' and 'identifications' that comprises our intrapsychic world. On a daily basis, we juggle and shift between several rather distinct selves, sometimes without being fully aware that we are doing it"* (Suler 1996: 305 – 344).

While Suler seems to view multiple identities primarily as social projections through which we externalize ourselves to others, and between which we alternate depending upon the role that we are called upon to play under particular social conditions, my own preoccupations very soon changed to an internalized game in which I became obsessed with observing how the facets of my 'self' interacted with one another; rather than how they felt, behaved and reacted during encounters with others.

What became an even greater concern however was getting my alt personas to collaborate in creative activity. The outcome was a fashion enterprise called 'alpha.tribe' that my avatars created as the joint venture of five designers working independently under one overall brand name, each creating his/her own specialized line of avatar apparel, based upon specific keywords such as 'floral,' 'geometric,' 'dark,' 'hybrid' and 'fluid.'

While 'alpha.tribe' may be perceived as attempting a design 'tour de force,' it is actually nothing but the implementation of an expertise that all graphic designers routinely develop as they switch between design elements and visual language in their work with diversified clients and products. In the case of alpha.tribe the sole difference is that the one designer has been split into five entities, amongst whom this expertise is distributed. Again, Alpha tells:

> *"Once the alts start interacting within a parameter, such as a joint design venture, it really all starts to happen. No longer are they lost and disjointed entities wandering the grid but suddenly they are, in fact, the diverse parts of me. They now have to learn to live with one another; they have to make up some kind of a psychic Gestalt, while still retaining their identities. And what better opportunity than whilst they are engaged in design work, given that they are all parts of a designer to begin with?"* (Ayiter 2008: 137)

Although it started as a self-observational project in which my primary objective was to observe and document the system that I had created; in time 'alpha.tribe' was externalized when it became active as a commercial business in Second Life that is still under operation today. However, even though my five designer 'selves' are still adding to the collection from time to time, my overall focus has changed due to new undertakings that the appearance and costume based output of alpha.tribe itself seems to have spawned. Thus, 'play' has bred 'play' that has manifested as a number of theatrical productions in which my five main personas share the stage with several newcomers to my tribe of 'selves.' These are staged as 'tableaux vivants,' as well as virtual flip-books and videos that are mostly based upon favorite texts which range from Shakespeare to Julia Kristeva. These productions are woven together on custom created websites and blogs that are combinations of texts and visuals, sometimes presented together with music of my own making as well. The sites are also interlinked to form a deliberately disjointed conglomeration and a portal which leads to them can be accessed online[75].

One of the important dynamics of the system of multiple selves is the balancing act that occurs between the opposing poles of unselfconsciousness and self-observation. While the former is needed to bring about the play state in which the creative process unfolds, the latter is crucial for transforming this process into indigenous output. The method that I have employed is a modification of Kolb's experiential cycle in which 'critical reflection on experience,' that is attained through 'active experimentation,' are set out as the consecutive steps of a model in which experience and reflection can coexist harmoniously. I have found that these steps can easily be applied to my activity in terms of both creating and documenting output, but even more importantly in terms of observing the process itself, which according to Dewey is a subject well worth pursuing:

75 http://elifayiter.tumblr.com/

> *"… no amount of ecstatic eulogy of finished works can of itself assist the understanding or the generation of such works. [] The answers cannot be found, unless we are willing to find the germs and roots in matters of experience that we do not currently regard as aesthetic. Having discovered these active seeds, we may follow the course of their growth into the highest forms of finished and refined art."* (Dewey 1934: 12)

In my adaptation, the phase of critical self-reflection involves chronicling of process and reflecting upon output through journal keeping which my five selves conduct through their personal blogs. Beyond this my alt avatars also engage in exchanges and debates that often also bring about tension and animosity, and which they leave as comments on each other's blog posts and underneath photographs which my main avatar Alpha places upon her Flickr feed. The most important record however is kept by Alpha who writes extensively on her relationships and her oftentimes troubled feelings about her colleagues who are nothing other than alternative manifestations of herself with whom she is now compelled to share her creative domain.

The visual documentation of alpha.tribe is the largest of all the ones assembled for this thesis. It is separated it into three pdf files: The first of these[76] is a large file that tells the tale of the 5 avatars, and tries to capture the essence of their daily lives and their relationships. Since these exchanges, quarrels and allegiances are an important component of 'alpha.tribe' as a creative undertaking that focuses on process rather than output, I have placed lengthy excerpts from these blog posts, comments and Flickr captions into the first file of the documentation of this project. The second file[77] that is related to alpha.tribe has very little text since it covers the creative output of my fashion designer selves. And a third file[78] shows screenshots from some of the 'alpha.tribe tales' which are creative play sessions that I indulge in and document with my many selves.

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*76 DVD > Appendix 1 > Chapter 6 > ayiter_Ch6_03a_AT_the-avatars-of-alpha-tribe.pdf*
*77 DVD > Appendix 1 > Chapter 6 > ayiter_Ch6_03b_AT_alpha-tribe-output.pdf*
*78 DVD > Appendix 1 > Chapter 6 > ayiter_Ch6_03c_AT_alpha-tribe-tales.pdf*

**Observing 'Me'**

I would like to sum all this up by reflecting upon the changes that have come to pass in me whilst engaged in what I have written in this chapter: Am I the same person who went into Second Life five years ago? And even more importantly; am I still the same person who stumbled upon the Groundcourse in 2004, and thus started asking questions related to creativity which she had never before considered in the light which Ascott proposed that they should be examined? Would the metaverse experience have been quite the same had I not based it upon principles which I derived from Ascott's educational ideologies?

No, I am no longer the same person. Although I have never had the advantage of being one of Ascott's Groundcourse students, reading and deliberating on what happened in Ealing and Ipswich between 1961 and 1967 has changed me. And after all change and the will to change, according to Ascott, are amongst the most important aims of this entire undertaking of eliciting creativity from learners: Behavioral change and perceptual change – a change in how we define our own creative activity as well as view what goes on around us in the world in this regard. A change in priorities from 'output' to 'process,' and from 'object' to subject.' A change in how we see ourselves, in how we come to acknowledge and integrate our separate 'selves' into our beings. A change in how we learn to self-observe ourselves whilst yet maintaining unselfconscious states of play and ensuing creativity. And a change in how we perceive the dynamic relationships that we are a part of, in how we learn to recognize the essence and the importance of the feedback loops that we create and are influenced by – be they internalized or external. The metaverse is uniquely suited to such fundamental changes; and the avatar is a singularly potent being for such changes to come about.

# Conclusion: ground<c>

This chapter begins by quoting the well known blogger Michael Cervieri who wrote in 2007 that the metaverse is *"a wildly provocative experiment in user generated content. Unlike most 'upload your content and we'll share it in some sort of social media web-2-point-oh way,' content creation in Second Life is really, really, difficult."* (Cervieri 2007) These difficulties relate to content creation as the core of defining a purpose and an identity within, what is after all, a vastly novel experience for humanity – extending one's existence through pixelated, three dimensionally embodied personas.

Since this is such a novel condition of being the exact nature of its creative output; the properties that set it apart from artistic endeavors involving other media and, other states of embodiment are yet to be fully understood and theorized upon. Once the distinct attributes of virtual worlds as the domains that necessitate the creation of artifacts that relate to virtual lifestyles have been duly acknowledged it should follow that art and design education curricula would also have to make the needed accommodations. Indeed the current ascendancy of game design and 3D modeling classes and courses that can be taken both as part of Higher Education and Further Education curricula already points in this direction, although in and of themselves these are sufficient harbingers that presage an axiological change in the learning strategies of art educational institutions in this regard – at least not in any fundamental sense.

Art educational enterprises may also need to prepare themselves to disseminating learning to a social group, the emergence of which was already foreseen by Ascott in 1966: A 'new,

leisured class' that will be involved in creative pursuits, furthermore a class which falls outside of the boundaries of traditional art education, that may have no interest in attaining professional degrees but instead wish to pursue artistic activity as a lifestyle.

ground<c> is not a structure that foresees its domicile within a traditionally defined art institution that gives out certificates and degrees. Instead, ground<c> aspires to elicit attention from individuals who are already pursuing creative activity inside the metaverse of their own volition, and who would like to take their experimentations even further.

## *ground<c> comes into being*

The wish of this project is to adapt Ascott's visions to three dimensional virtual worlds, and especially the builder's world of the metaverse. The Groundcourse's tenets can be brought into effect elsewhere in the digital medium; they are universal enough and flexible enough to become the foundations for learning strategies that materialize under social networking domains, as well as through blogs, and many other applications that may combine desktop software output with VLEs which are custom built for such a purpose.

This can only come into being if many individuals are involved: The essence of Roy Ascott's credo lies in cybernetics. And no matter how much it could be argued that a system of dynamic relationships can also be self-instigated, a significant number of contributing individuals are needed to bring about the level of creative exchange that transpired in as complex a system as the Groundcourse. Indeed, Ascott also states this quite clearly in his 1964 article when he says that *"one artist is not enough. A wide diversity of artists and scientists, suitably coordinated, must confront the student."* (Ascott 2003: 102)

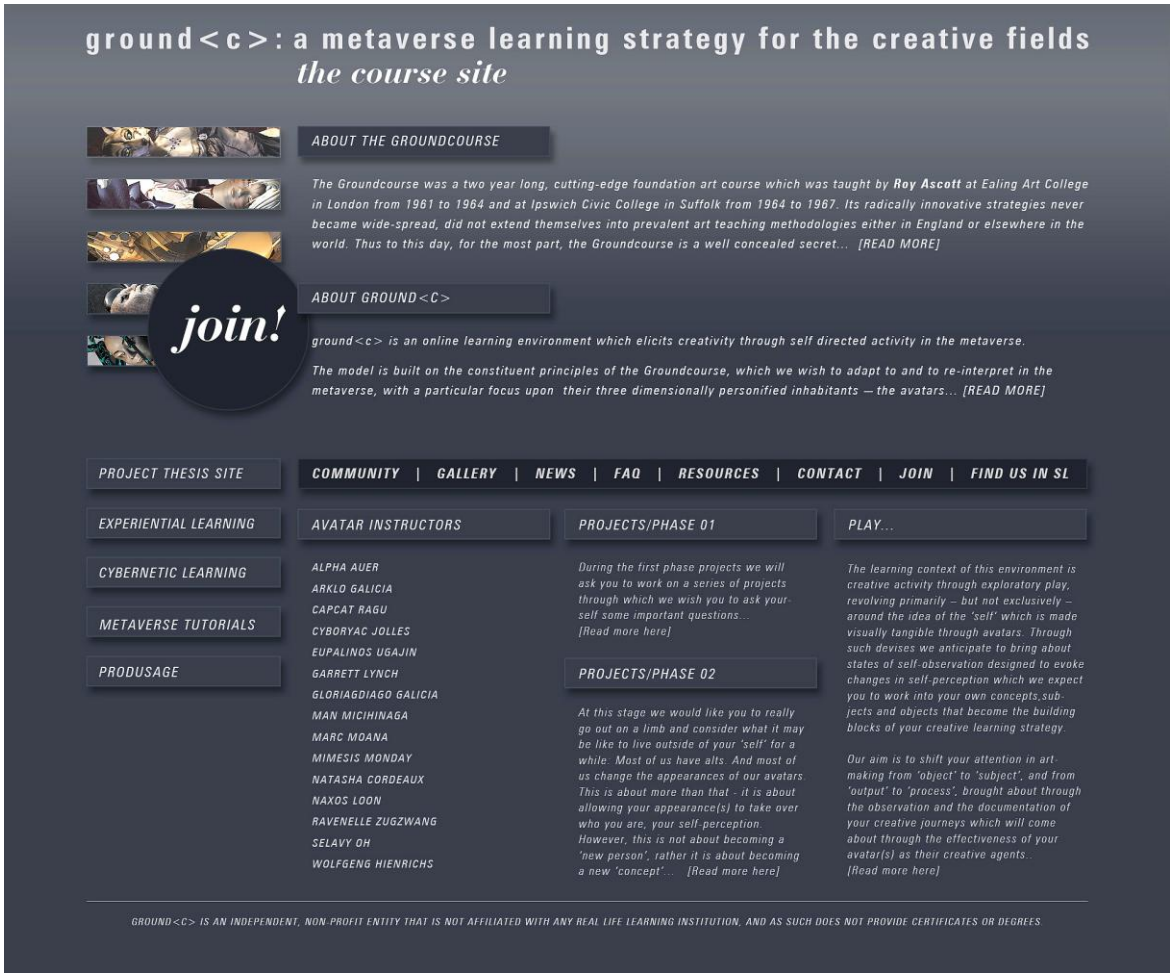


***Figure 31: "ground<c>," course website interface***

One good example as to why such diversity is called for is the way in which the projects of the first year of the Groundcourse came into being through staff discussions that were creative activities in their own rights:

> *"My collaborators on the course have included a deliberately varied selection of painters, sculptors, designers, and scientists. Each one has expanded his own given area of teaching with ideas fresh from his studio or study. These areas interact and suggest new fields of study and the need for new kinds of personalities. Ideas grow and exercises proliferate as teachers discuss and dissect one another's attitudes and pedagogic methods. So many exercises and methods of presenting them are thrown up in this creative milieu, even in the course of one week, that it would be impossible to list them here. ... For the teachers, the formulation of problems is in itself a creative activity; the above examples give a general indication of the kind of questions they have set."* (2003: 103 – 105)

The names listed under avatar instructors on the website interface screenshot above shows a group of individuals who are diversified enough in their interests to answer Roy Ascott's emphasis on variety, and who have expressed a most enthusiastic willingness to become

ground<c>‘s founding group of instructors, and our tentative plan is to initiate the project in the Summer or early Fall of 2013.

**Dissemination: Blogs, Websites and Creative Sharing Domains**

The avatar who is to be an instructor of ground<c> is an individual

- who would have the requisite vision to work under Ascott’s principles,
- whilst at the same time have the intellectual and creative ability to adapt these principles to the novel conditions under which they will be implemented and extended upon.
- A further requirement is that these individuals are full time residents of the metaverse who have more than a mere nodding acquaintanceship to the place; therefore they will be persons who are effectively living two lives in tandem.

Inevitably, such individuals are usually very busy. They have their own projects – very often indeed they have many undertakings and plans materializing all at once. Will they be willing to take on yet another project? And even if their answer is ‘yes,’ will they have the time to fully become engaged in yet another endeavor that is placed on their already heaped full plates? In order to accommodate their needs and to use their time and input in the most efficient way possible certain issues should be taken into account and provisions should accordingly be made.

Holding ‘serious’ meetings in the metaverse is time consuming and frustrating:

- Most people avoid voice since the human voice as well as the spatial sound of the location that they are in Real Life, whilst they are speaking in what is in the end an entirely different location, and through a digitized body, take away from ‘immersion’ (Hendrix & Barfield 1996: 290 – 301). This effectively leaves text chatter as the

communication device, which works very well as long as you are not pressed for time, and as long as what you are talking about when you are in a group situation does not need to be 'heard' in a correct sequence in which responses are coordinated to what was said before.

- A second consideration is privacy, which again is an important factor, especially when the celebrity of some of the prospective instructors is considered. Well known avatars are frequently interrupted during private conversations or whilst working. Thus, making ground<c>'s instructors available in-world to their students at all times is counterproductive.

- A third consideration is that viewing creative output inside the virtual world may be time consuming in and of itself. Added to this is the actuality that a considerable portion of the work that ground<c> students are likely to generate will be geared towards photography or machinima, the final viewing locale of which is outside the three dimensional realm, in online social and creative sharing domains. While work that has been brought about to be engaged with inside the metaverse will need to ultimately be considered there, nevertheless a lot of time can be saved by taking screenshots of the interim stages of such work and presenting it to scrutiny in that way.

Beyond these issues that mostly go to ensuring the comfort of the instructors, the most important considerations concern the students themselves: ground<c> wishes to emphasize self-observation, play and process. In order to document these adroitly, learners should write about their creative experiences; as well as take many photographs and shoot videos while they are working or playing – or indeed doing both at the same time. These texts will need to be collected in repositories such as blogs or websites, and the related photographs and videos placed in creative networking domains to be linked back to these repositories where they can

work together with the text, to make up a whole. Students may also wish to create audio diaries to document their process, and audio may well become creative output in its own right. All these call for solutions that reside outside the metaverse, but are closely linked to it (as well as one another) online.

The bulk of communications through a website that will operate as a portal to many interlinked blogs; some of which will be open only to the instructors for their internal communications, and some of which may indeed be private sketch-pads that are only available to a select group of invitees that the student or instructor will decide upon. These blogs will be linked to creative sharing domains such as Flickr, vimeo, DeviantArt and YouTube, as well as to social networking sites such as Facebook and Twitter.

**Web Architecture**

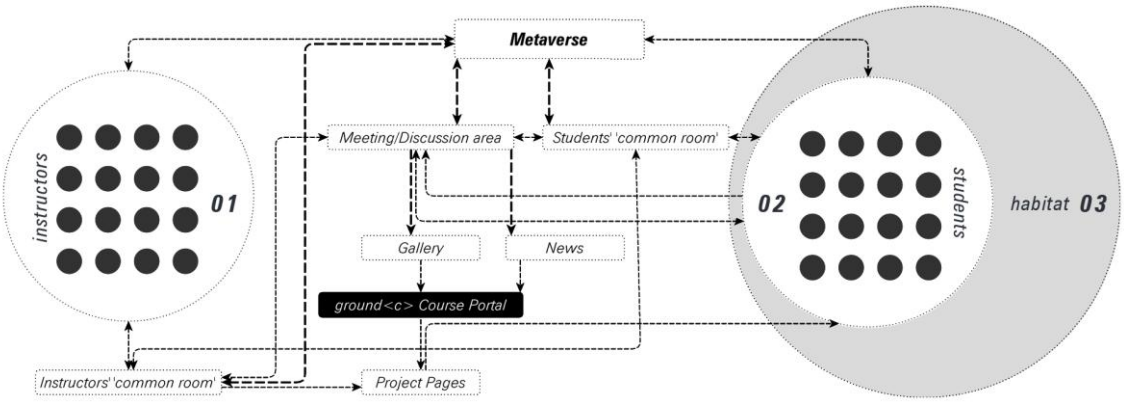


***Figure 32: "ground<c>,"web architecture***

Figure 32 above shows through the metaphor of web architecture how the dynamic relationships between ground<c>'s instructors and learners are to develop. The number '01' denotes the blogosphere of the instructors. The individual blogs are shown by filled in gray circles that may or may not be public, depending on the bloggers choices. The same principle also applies to the circle marked up as '02' that shows the blogosphere of the learners: Here again the individual blogs which are represented by filled in gray circles may

or may not be public. Thus, in both cases; for learner and instructor alike, keeping a personal blog is voluntary, based upon the individual preferences of the users of the system.

Both groups however, are asked to contribute to their so-called ‘common rooms,’ which are communal blogs that are accessible only to other members of their own group. In the case of the instructors this is the space in which the exercises are discussed and formulated through posts and comments; and also where evaluations of both output and improvements to the overall workings of ground<c> can be undertaken. In the case of the students this is the space in which the exercises are deliberated upon, as well as added onto; where the overall learning strategies are discussed, and where tips and resources are exchanged – again through posts and comments.

The two groups meet in the meeting/discussion area, which is an extended communal blog that is open to the members of both groups, and to which, again all members are asked to contribute. This is where exercises are finalized through posts and comments, and output is also discussed here – particularly in those cases when a group critique is requested by a student or a group of students. Again, discussions related to the overall performance of ground<c>, how useful it is, how it can be improved upon, will be conducted here, together with a notice board for upcoming events, useful sites and resources that may be of interest to both groups, and also of course for all kinds of fun or exciting or idiosyncratic things to share, given that ‘play’ will be as much in evidence in the contents of these blogs as it will be throughout the entire learning system and that all participants will make contributions that will be in accord with this spirit.

Since no contributor, instructor and learner alike, should be expected to wade through massive amounts of text to get to the heart of a discussion, one of the few ground rules put into effect is to be a word count that limits the lengths of both post and comments on the three communal blogs.

A further attribute of these communal blogs is that they should be internal areas that are only open to the participants of ground<c>. However all the pertinent conclusions, be they output or discussions that a participant deems to be worth sharing with the world at large, will be transferred from the meeting/discussion area to the main course website where they will be open to the general public under the 'news' and 'gallery' pages.

Coming to the 'habitat' however, the light gray circle that surrounds the learners' blogosphere, marked up as '03,' represents the creative sharing domains which stand outside of the course's own web architecture and as such can be considered to be located in its proximity, constituting its habitat. To these learners are expected to post their output in the form of videos or photographs. Other such sharing domains may also be creative writing spaces, such as scribd[79], or indeed audio sharing spaces such as FreeSound[80] and the Free Music Archive[81]. In addition to the 'gallery' and 'news' pages on the ground<c> course site itself, these creative sharing domains will provide an excellent means of public sharing.

What should be emphasize however is that learners will be encouraged to not to view their work in terms of finalized, precious artifacts that can be presented to the public only after they are 'completed,' but rather as an ongoing and ever evolving process, all phases of which should be seen as worthy of public display. The public sharing of snapshots or quick video captures of work-in-progress, snippets of audio or text (no matter how disjointed these may even seem to be), as well as ideas and musings and recounts of experiences and play sessions will be encouraged. Beyond all these, the personal blogs of all participants (shown as small gray circles in the figure above) can be open to the general public as well, and these can serve as good collectors of all the material that learners will be encouraged to place inside 'the habitat.'

79 http://www.scribd.com/
80 http://www.freesound.org/
81 http://freemusicarchive.org/

The metaverse is the seat of all creative activity that comes into the system, and has accordingly been emphasized with a bold typeface in the diagram. Groups or instructor/learner pairs will meet there to examine progress and output. Outcomes of such meetings can be shared with other ground<c> members in the meeting/discussion area, as well as the 'common rooms' of the instructors and the students. Consequently, the metaverse is linked to all three of these nodes directly.

**Learner Profile**

The five years that I have spent as a full time resident have taught me that the metaverse attracts its own kind of idiosyncratic personality, and that it is therefore very difficult to convince people to go into the metaverse unless they decide to do so of their own volition. What is nigh on impossible however is to get them to stay unless, again, they decide to do so for personal reasons that may initially be quite hard to articulate even to themselves.

The huge dropout rate seen amongst the incoming users of Second Life can be seen as a very good indicator of this circumstance. The much discussed difficulty regarding the learning of the viewer's interface as a reason for the high drop-out rate is a futile debate since the metaverse viewer is not particularly difficult to learn.

The metaverse is a creative domain, which should actually make it highly attractive to all creative persons. What makes it into a challenge however is that creativity in the metaverse involves 'creating a life,' much more so than it involves creating externalized artifacts. This is an undertaking that requires time and patience and furthermore bringing about 'a life' also depends on serendipitous occurrences and chance encounters that again require time in which they may or may not materialize.

This leads to the conclusion that the sensible thing to do when it comes to bringing learners into ground<c> is to look for them amongst the existent population of the metaverse itself. I

have already sent out feelers and asked the members of the alpha.tribe group whether they would be interested in joining such an undertaking if it were on offer, also by directing them towards Roy Ascott's own texts on the Groundcourse, that were extracted from 'Telematic Embrace' which can be found in the online library Questia[82]. The answer was overwhelmingly positive: The alpha.tribe group members are mostly gifted amateur artists who work in virtual photography and machinima. Their responses indicated that a self-directed learning strategy that was based on what Ascott described in his texts would definitely help them to break the moulds of their own perceived limitations and would help them overcome creative blocks, freeing them up for deeper levels of experimentation – in short, that they would welcome it most wholeheartedly.

**Second Life versus OpenSim**

This learner profile suggests that Second Life, which is the only truly socio-economically developed metaverse at this time, is the obvious seat of learning for this project, for the simple reason that the OpenSim is still very sparsely populated.

Given time OpenSim and its extension the Hypergrid[83] will develop into a vast, interconnected system of fully fledged virtual worlds that are the carriers of the requisite social and economic infrastructure for participatory, socially founded creative activity to commence in the fullest sense of the term. In the vision of the OpenSim lies the future of the three dimensional, non-proprietary internet in which all kinds of products, ideas and concepts are shared, as well as bought and sold very much as is the case with the two dimensional web today. In its current state however, the OpenSim is nowhere near such a mature manifestation. As yet there is no critical mass of players who will bring forth a need for the metanomic infrastructure that fills Second Life with literally hundreds of thousands of artifacts that can be played with and re-worked into neoteric disclosures, endowed with

*82 http://www.questia.com/read/106345812/telematic-embrace-visionary-theories-of-art-technology*
*83 http://opensimulator.org/wiki/Hypergrid*

their own purposes and meanings that often no longer relate to the original object from which they were derived. In short, the OpenSim is still largely devoid of all the 'toys' that make Second Life so attractive as the domicile of this project.

The importance of toys lies in the whole notion of 'play' as a mind state that evokes creativity. That toys are crucial elements in bringing forth fantasy and imagination (which in their turn elicit creativity), particularly during solitary play sessions, has also been commented upon by Brian Sutton-Smith who has commented upon toys as cultural signifiers while such heightened imaginative play states come into being (1997: 152 – 156).

'Toys' are particularly crucial to this learning strategy since ground<c> is not envisioned as a place where learners will be taught how to painstakingly manufacture beautiful objects from scratch, but rather as a place where energies can be directed far more fruitfully to developing novel (bisociative) relationships between already existent objects. How such activities may be translated into novel concepts and ideas, how art may be generated from 'process' rather than 'outcome,' and from 'subject' rather than 'object' in ways in which objects are solely used as the carriers of process will be the content of ground<c>. Chapter 6 has demonstrated how such an undertaking may work through the self-observational project 'The Avatar of the Uncanny Valley,' in which only purchased material was used to bring about the visual manifestation of the work. Although some of what was bought was modified, nothing that was used for props and scenery or as the attire of Alpha, was self-made. What was important was the journey itself, and its documentation. As such, 'The Avatar of the Uncanny Valley' is a project that exemplifies which tools and devices will be the best suited ones in bringing together self-observation, play and learning for creative activity to commence in ground<c>.

## *The Importance of Remaining Non-Specific*

This concluding chapter has gone into the specifics of the structure of ground<c>, explaining how the participants may relate to one another through the metaphor of a web architecture. Throughout the rest of this thesis 'play,' self-directed learning and self-observation have been emphasized to describe how a learning method such as ground<c> may be adapted to an individual's creative output. Another specific element has been 'produsage' as a method for creative activity. These are indeed all specific instruments – and yes, in this sense the methods proposed in this thesis been quite specific.

Also discussed was the transformation in the intrinsic structure of the digitally created visual artwork from autographic to allographic, and the literary pseudonym and heteronyms; which under these novel conditions can now be successfully evoked through visual means as well – and particularly so through the metaverse avatar. This too is a very specialized area of investigation that may become of interest to some of the participants of ground <c>.

However descriptions of learning outcomes and the details of a curriculum that progresses based upon a rationale that assumes a predetermined outcome, consisting of learning material that has been pre-planned to accommodate such reasoning, and the acquisition of sets of highly defined skills that will allow learners to concentrate on specialized fields of creative output have remained non-specific.

ground<c> will be based upon the founding principles of the Groundcourse. And it is at this juncture that non-specificity becomes crucial since, non-specificity is one of the founding principles of the Groundcourse itself.

This is derived from Roy Ascott's emphasis on cybernetics that he defines as the science of dynamic relationships (Ascott 2010); which through their very nature would appear to already preclude pre-determined outcomes. Ascott's description regarding the first year

exercises of the Groundcourse, that were worked out communally by the instructors in meetings which were massive creative exercises in their own rights, further attests to this notion of non-specificity.

A further substantiation for remaining non-specific resides in Ascott's definition of the Cybernetic Art Matrix as a self-organizing system that would ideally be modeled on premises that were *"provisional and general, rather than absolute and specific"* and would come about *"spontaneously and biologically"*; evolving into networks consisting of nodes and hubs of creative/learning activity that would configure themselves to initiate new lines of thought and experiment, becoming catalysts to action and change (2004: 134). Ascott cautions against over-specialization by saying that:

> *"The general tendency in conventional art education is geared towards quite intensive specialization at an early stage in the student's 'professional' course of study [in which] the criteria of success tend to revolve around predetermined [] stylistic canons. This operates in terms of series of graduated filters, each of which is designed, in effect, to perpetuate the standards and bias of the examiners. This cramped and inverted process of intensive fragmentation merely equips the student with an overspecialized repertoire for a world that increasingly requires a broader more inclusive artistic vision and design practice"* (Ascott 2004: 138)

William Doll bases his paradigm on self-organization in biological systems, telling us that curricula could well be structured as *"open, dynamic, relational, creative, and systems oriented"* constructs in which non-linear transformations are encouraged, indeed should be seen as bringing about the intrinsical workflow of the system (1989: 243 – 253). Doll says that "*an open-ended process is determined but unpredictable"* (1993: 72); and that the organization of the process is enabled by continuous, recursive and self-referential interactions that defy binary opposites, and through which they overcome *"a process – product, objective – subjective split"* (1993: 13).

The learning strategy of ground<c> will therefore be based upon a primary matrix, a framework that follows a path that originates from the Groundcourse. That such a path will

branch out rhizomatically; and create many more paths which may also intersect along the way, is in the very nature of the undertaking itself.

# VII. Appendix 1 and 2

The appendices of this thesis have been placed inside two folders that can be found inside the presented DVD. These consist of a visual documentation (Appendix 1) and publications that were made during the period of study (appendix 2).

## *-Appendix 1: Visual Documentation*

- **Chapter 5**
  - ayiter_Ch5_AA_alphas-toys-virtual-roommates.pdf
  - ayiter_Ch5_AA_alphatribe-island.pdf
  - ayiter_Ch5_AA_HHH_MMH_WH_play-moments.pdf
  - ayiter_Ch5_AA_HHH_nuke-farming.pdf
  - ayiter_Ch5_AA_HHH_the-demise-of-the-pig.pdf
  - ayiter_Ch5_AA_MM-FR_tower-and-the-quest.pdf
  - ayiter_Ch5_AA_MMH_rutschbahn-and-the-ball-and truck-race.pdf
  - ayiter_Ch5_AA_MMH_shooter-games-in-the-archipelago.pdf
  - ayiter_Ch5_AA_operation-hasi.pdf
  - ayiter_Ch5_AA_syncretia.pdf
  - ayiter_Ch5_AT_alpha-tribe-produsage.pdf
  - ayiter_Ch5_EU_NL_wondrous-tales.pdf
  - ayiter_Ch5_WH_HHH_SaR.pdf

- **Chapter 5 Standalone Images (Folder)**
    - ayiter_Ch5_AA_alphas-toys-virtual-roommates (Folder)
    - ayiter_Ch5_AA_alphatribe-island (Folder)
    - ayiter_Ch5_AA_HHH_MMH_WH_play-moments (Folder)
    - ayiter_Ch5_AA_HHH_nuke-farming (Folder)
    - ayiter_Ch5_AA_HHH_the-demise-of-the-pig (Folder)
    - ayiter_Ch5_AA_MM-FR_tower-and-the-quest (Folder)
    - ayiter_Ch5_AA_MMH_rutschbahn-and-the-ball-and truck-race (Folder)
    - ayiter_Ch5_AA_MMH_shooter-games-in-the-archipelago (Folder)
    - ayiter_Ch5_AA_operation-hasi (Folder)
    - ayiter_Ch5_AA_syncretia (Folder)
    - ayiter_Ch5_AT_alpha-tribe-produsage (Folder)
    - ayiter_Ch5_EU_NL_wondrous-tales (Folder)

- **Chapter 6**
    - ayiter_Ch6_01_AA_the-avatar-of-the-uncanny.pdf
    - ayiter_Ch6_01_the-avatar-of-the-uncanny-valley.mov (Video)
    - ayiter_Ch6_02a_AA_avatar-narcissus_anatomia.pdf

- ayiter_Ch6_02a_avatar-narcissus_anatomia.mov (Video)
- ayiter_Ch6_02b_AA_avatar-narcissus_body-parts.pdf
- ayiter_Ch6_02b_avatar-narcissus_body-parts.mov (Video)
- ayiter_Ch6_03a_AT_the-avatars-of-alpha-tribe.pdf
- ayiter_Ch6_03b_AT_alpha-tribe-output.pdf
- ayiter_Ch6_03c_AT_alpha-tribe-tales.pdf
- Ch6_03c_EA_alpha-tribe-tales-lpdt2-avatars.mov (Video)
- **Chapter 6 Standalone Images (Folder)**
  - ayiter_Ch6_01_AA_the-avatar-of-the-uncanny (Folder)
  - ayiter_Ch6_02a_AA_avatar-narcissus_anatomia (Folder)
  - ayiter_Ch6_02a_AA_avatar-narcissus_body-parts (Folder)
  - ayiter_Ch6_03a_AT_the-avatars-of-alpha-tribe (Folder)
  - ayiter_Ch6_03b_AT_alpha-tribe-output (Folder)
  - ayiter_Ch6_03c_AT_alpha-tribe-tales (Folder)

## *Appendix 2: Publications*

- **Papers**
  - 2005_ayiter_entreloupetchien.pdf
  - 2006_ayiter_balcisoy_transdisciplinary-avenues.pdf
  - 2006_ayiter_bridgeproject.pdf

- 2007_ayiter_balcisoy-germen_Propagating-Collaboration-An-instructional-methodology-for-artists-and-engineers.pdf
- 2007_ayiter_The_Palace_Project.pdf
- 2008_ayiter_alpha-tribe.pdf
- 2008_ayiter_Art-Education-metaverse-groundc.pdf
- 2008_ayiter_balcisoy_germen_turker_kasarci_Space-Frames.pdf
- 2008_ayiter_integrative-art-ed-metaverse.pdf
- 2008_ayiter_uncannyvalley.pdf
- 2009_ayiter_balcisoy_germen_ 3-case-studies.pdf
- 2009_ayiter_balcisoy_germen_ozdol_sakcak_reflexive-campus.pdf
- 2010_ayiter_body-parts.pdf
- 2010_ayiter_Constructing-Transformations--ground-c-A-Learning-Strategy-for-the-Metaverse.pdf
- 2010_ayiter_conversations-p-individuals-avatars.pdf
- 2010_ayiter_embodied-metaverse.pdf
- 2010_ayiter_Symbol-Costume-Compass.pdf
- 2010_ayiter_synthetic-worlds-strategies.pdf
- 2011_ayiter_self-observation-learning.pdf
- 2011_ayiter_balcisoy_germen_hypertext-avatars.pdf

- 2011_ayiter_moswitzer_oh_LPDT2-ISEA2011.pdf
- 2011_ayiter_wondrous-tales.pdf
- 2012_heteronyms-avatars.pdf

- **Presentations**
  - 2005_ayiter_entre-loup-et-chien.exe (PC only)
  - 2005_ctrl+xyv.pps
  - 2006_ayiter_bridge-project.ppt
  - 2006_ayiter_fluxitecture.ppt
  - 2006_ayiter_ground-c.ppt
  - 2006_ayiter_ground-c_diagrams.ppt
  - 2006_ayiter_The_Palace_Project-construct.ppt
  - 2006_ayiter_The_Palace_Project-history.ppt
  - 2008_Uncanny-Avatar.ppt
  - 2008_alphatribe.ppt
  - 2009_ayiter_reflexive-campus.ppt
  - 2010_ayiter_Constructing Transformations.ppt
  - 2010_ayiter_conversations-p-individuals-avatars.ppt
  - 2010_ayiter-body-parts.ppt
  - 2011_ayiter_hyperavatars.ppt

- 2011_ayiter_lpdt2-isea2011.ppt
- 2011_wondrous-tales.ppt
- 2012_ayiter_heteronyms-avatars.ppt

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