

Syncretia: A Sojourn into the Uncanny Valley

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Abstract

The island Syncretia, situated in the metaverse of Second Life is the future home of ground<c>, a metaverse learning environment, dedicated to the enablement of creativity and inspired primarily by "The Groundcourse" [1]; Roy Ascott's art educational methodology developed and practiced during the 1960's. Combining cybernetics and constructivist educational theory, The Groundcourse devised a flexible structure, "within which everything can find its place and every individual his way". The outcome was a 2 year art foundation course, the aim of which was to create an environment which would "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", achieved through a drastic breaking down of preconceptions related to self, art and creativity. Thus the operative tenet that was employed was one of providing an environment that fostered the rethinking of preconceptions, prejudices and fixations with regards to self, society, personal/social limitations, art and all the ensuing relationships through a carefully thought out, coordinated and orchestrated range of assignments and exercises that entailed behavioral modification and indeed change. The basic premises of ground<c>, as well as a detailed description of the Groundcourse have been reported on by the author in prior publications [2] and will thus not be delved into further at the present time. What this paper proposes to focus upon instead is a specialized area within the overall research, involving Presence and Cyberpsychology as well as the findings of Robotics, specifically the concept of the "Uncanny Valley" in the creation of avatars.

The Role of the Avatar in ground<c>

While ground<c> is indeed strongly inspired by the Groundcourse, an exact replication is clearly not intended; nor indeed would such a replication be possible or meaningful, given the changes wrought about by technological, cultural, socio-economic and political change over the past 50 years. Thus, the principles of the Groundcourse that the author intends to fully adhere to, whilst developing ground<c>, is the one of the usage of irritants in aid of the enablement of creative activity.

While the first year of the Groundcourse was devoted to countless exercises of creative problem solving, ranging from drawing exercises to the acquisition of artistic skills and perception; that could at times seem absurd, aimless, even terrifying; the second year proposed a new in challenge in that the problem that students now had to address was the task of acquiring and acting out a totally new personality, which was largely the converse of what they would consider to be their normal "selves." These new personalities were monitored with "calibrators" that were designed to read off responses to situations, materials, tools, and people within a completely new set of operant conditions. These responses were then

used in the creation of mind maps to be utilized as consultational charts enabling handy reference to behavior pattern dictated by change in the limitations of space, substance, and state. These “new” personalities were asked to form hexagonal groups which had the task of producing an ordered entity out of substances and space in their environment, with severe limitations on individual behavior and ideas, forming the “irritants”, i.e. the educational aids of limitation in the pursuit of creative enablement. The irritation of the organism was 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.

Students were then invited to return to their former personalities, making a full visual documentation of the whole process in which they had been engaged, searching for relationships and ideas unfamiliar to art, reflecting 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”*.

Thus, a salient aspect of Ascott’s methodology in the propagation of behavioral change and stimulating creative processes can be considered as a specially targeted version of the present day phenomenon of “Role Play”, which lead the author to propose a utilization of the entire metaverse for creative learning activity, especially for the enactment of different selves through the agency of diverse play activity, which brings into prominence the role of the avatar.

Avatars play an important role in structuring social interactions, as their inhabitants both consciously and unconsciously use them in ways very similar to their material body [3]. While the basic avatar is a human of either sex, avatars can have a wide range of physical attributes, and may be customized to produce a wide variety of humanoid and other forms. Furthermore a single person may have multiple 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 allow visual communication, Suler [4] also contends that avatar appearance is crucial for identity formation in virtual worlds. Reid [5] describes them as a “real” person's proxy, puppet or delegate to an online environment'.

Bailenson and Yee [6], also verify the profound nature of the relationship of the individual to his/her avatar. Studies on addiction, on whether the changes in self-representation that virtual environments allow individuals affect behavior both in-world as well as in “real life”, the motivations of participation and play, related to demographics such age, gender and usage pattern [7], investigation into the benefits of embodied perspective-taking in immersive virtual environments [8], research into whether social behavior and norms in virtual environments are comparable to those in the physical world [9] all show that there is indeed ample material for implementing an educational methodology that embraces the breaking up of behavioral ruts due to preconceptions related to self, society and creativity through the realization and enactment of new personalities, through the avatar.

For the purposes of ground<c>, an educational strategy that bases itself upon irritating the organism of the learner through behavioral restrictions and challenges, a theory that originates from Robotics becomes

noteworthy in that it seems to define the guidelines towards the creation of avatars that would be endowed with characteristics which in themselves would constitute considerable restraints to social interaction, much in the way that behavioral restraints were implemented during the Groundcourse to the same ends.

The Uncanny Valley

The Uncanny Valley is the point in which the facsimile of a human looks almost, but not entirely human. It was introduced by Masahiro Mori in 1970 [10], and has been linked to Jentsch's concept of "The Uncanny"; identified in a 1906 essay, "On the Psychology of the Uncanny" [11]; as well as Sigmund Freud's 1919 essay, "The Uncanny" [12]. Mori states that as a robot becomes more, 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 strong repulsion. However, as the appearance and motion continue to become even less distinguishable from a human being, the emotional response becomes positive once more and approaches human-to-human empathy levels. Thus, the curve is not a sure, steady upward trend. Instead, there is a peak shortly before a completely human "look" has been reached, immediately to be followed by a deep chasm which plunges below neutrality into a strongly negative response before rebounding to a second peak where the resemblance to humanity is complete. This area of repulsion aroused by a robot situated between the "barely-human" and the "fully human" entity is called 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 seem eerie or disquieting. The preceding peak, however, is where the perception is of an entity, human enough to arouse some level of empathy, while yet remaining clearly non human enough to avoid a sense of wrongness.

Jentsch argues 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). Jentsch's concept also finds reflection in Tomlinson [13], who suggests that these responses occur when an entity can neither be categorized as living or dead. Freud proceeds to elaborate 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/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, is related not directly to the uncanny entity itself but to the context in which it is encountered. Thus he points out those entities which are not even perceived as 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.

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 Ishiguro [14] 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'*. (Ishiguro, 2006). 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 [15], 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'*, again in a sense picking up on the Freudian theme of environmental context in relation to the uncanny.

Freud places the uncanny firmly into the domain of Aesthetics and indeed Aesthetics seems to have created an interesting merger with Robotics. Thus, Hanson [17] argues that *'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).

Beyond Robotics and Cognitive Science, an investigation into the Uncanny also seems to have found a recent resonance in the Arts and Humanities: *'The Uncanny: Experiments in Cyborg Culture'* [18] is a compilation of essays examining the cyborg as man/machine, under the light of the Freudian essay, tracing the presence of the cyborg to as far back as the early 19th century. However the current interest in the uncanny extends beyond androids and cyborgs into diverse fields of endeavor: Investigations of the Uncanny in contemporary architectural spaces has been conducted by Anthony Vidler in *'Warped Space'* [19].

Finally, a survey of the field of interest would not be complete without touching upon the concept of the Object [20]: Kristeva places the object in an intellectual twilight zone similar to Tomlinson's in-between alive and dead, between subject and object, not only in-between but indeed neither: *'There looms, within abjection, one of those violent, dark revolts of being, directed against a threat that seems to emanate from an exorbitant outside or inside, ejected beyond the scope of the possible, the tolerable, the thinkable. It lies there, quite close, but it cannot be assimilated. It beseeches, worries, and fascinates desire, which, nevertheless, does not let itself be seduced. Apprehensive, desire turns aside; sickened, it rejects. A certainty protects it from the shameful - a certainty of which it is proud holds on to it. But simultaneously, just the same, that impetus, that spasm, that leap is drawn toward an elsewhere as tempting as it is condemned. Unflaggingly, like an inescapable boomerang, a vortex of summons and repulsion places the one haunted by it literally beside himself'*. (Kristeva, 1982)

Thus: *'The object is not an ob-ject facing me, which I name or imagine. Nor is it an ob-ject, an otherness ceaselessly fleeing in a systematic quest of desire. What is object 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 object has only one quality of the object - that of being opposed to the I'. (Kristeva, 1982)

Future Work

The quest of this author differs from the bulk of the scientific literature on the Uncanny Valley: Mostly positioned in Robotics, contemporary research into the Uncanny Valley focuses on the avoidance of its perils in the creation of Humanoid Robots, whereas the question asked here is whether the Uncanny Valley cannot be used as a strategy in art education through Role Play that would evoke a re-examination of self perception and the relevance of persona to social interaction; culminating in the formation of an irritant that would engender behavioral and perceptual change.

A series of 'uncanny avatars', which are positioned between the human and the non-human and in one case between dead and alive, have been created by the author in Second Life. The primary task was self evaluational in the sense that the author tried to test and document her personal reaction to these avatars in a solitary setting. The next step will lead these avatars into social settings, particularly those in which the appearance of these avatars would be highly unexpected, in accordance with Freud's observation of the context being paramount in the realization of the uncanny; to test out social responses. Outside of the author herself, a user group will be also asked to wear these avatars both in social as well as solitary settings. Series of surveys will then be conducted based upon the Grounded Theory model, in which the users/interactors of these entities will be asked for their reactions and the feelings that these arouse in them. Users will also be asked to develop their own uncanny avatars, together with a written description as to why the particular avatar is perceived to be uncanny. Based upon these findings an effort to incorporate the avatar of the Uncanny Valley into the teaching strategy of ground<c> will be undertaken.

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