ground<c>: The Enablement of Creativity in a Metaverse

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The metaverse has taken huge steps in the realization of a realm where awareness between participating agents is taken to an entirely new level, providing not only interaction and participation but also "presence", creating far deeper reaching implications than what a mere novel display system or tool would indicate: New forms of embodiment, of presentation as well as perception, and of autopoiesis are being materialized. Artistic practice constitutes a field requiring specialized creative strategies for the implementation of this novel condition.

While Second Life is used by hundreds of educational institutions (Lagorio 2007), the lack of concern over whether the unique properties of this novel human condition can be exploited to develop novel learning strategies is noteworthy. The overriding majority of SL universities have appropriated campuses in which learning activity that is entirely cut off from the rest of the metaverse tends to occur. Indeed, most of these campuses have been built as exact replicas of their physical counterparts, thus metaverse learning activity is considered as a mere extension of education in the physical realm, mostly implemented by faculty whose presence in the metaverse is limited to this activity alone.

McPherson (Mcpherson 2004) proposes that the design of online learning environments should be based upon pedagogical models appropriate to a specific educational scenario. For ground<c>, this model is the Groundcourse (Ascott 2003), Roy Ascott's art educational methodology practiced during the 1960's, implemented through behavioral exercises, role-play and ''irritants'', operating under the tenet of Dewey's learning theories (Dewey 1921), and Cybernetics; the ultimate 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 an enviroment that fostered the rethinking of preconceptions and fixations with regards to self, society, personal/social limitations, art and all the ensuing relationships was provided through a carefully coordinated range of exercises involving problem solving, that could at times seem absurd, even terrifying in that they all entailed behavioral change. Empirical enquiry was balanced by scientific study; irrational acts by logical procedures. At the core however, was a concept of power, the will to shape and change, this indeed being Ascott's overriding educational goal. Thus, *"the student is bombarded at every point with problems demanding total involvement for their solution. For the teachers, the formulation of problems is in itself a creative activity..."*

One such problem was that of acquiring and acting out a new personality, which was the converse of what they would consider to be their normal "selves." These new personalities were monitored with "calibrators" that read off responses to situations, materials, tools, and people within a completely new set of operant conditions, students forming 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. These formed the "irritants", i.e. the educational aids of limitation in the pursuit of creative enablement. Students were then invited to return to their former personalities, making a full documentation of the whole process in which they had been engaged, searching for relationships and ideas, 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"*.

For ground<c>, which is at its core a design project, Dewey's proclamations on the importance of environmental design in education are crucial: While the Groundcourse, with its behavioral restraints and irritants took into account the value of both experience and environmental stimulus, ground<c> will be able to put into practice Dewey's convictions to even further use by designing the entire architecture to suit the needs

of experiential learning by taking full advantage of the affordances of the virtual. Real world constrictions would not have enabled the design of spaces for the Groundcourse that were thoroughly changeable, interactive and indeed unpredictable in the 1960's. Spaces where space itself could become a hindrance, an obstacle to be surmounted — in short an irritant. Space free of gravity, space with increased/decreased collision detection, space that shrinks and expands, space that is beyond the users control can be used in series of assignments to enhance perception, visual observation and in defining behavioral experiments to aid creative enablement in ground<c>. Indeed such space need not even be perceived identically by multiple learners: It is entirely conceivable to create space that presents itself with differences, ranging from the subtle to the drastic, to different users at the same time. A 3D construct, incorporating highly interactive/kinetic elements, that will provide an unpredicatable, changeable learning environment which can be adapted to specific needs of instruction/experience with great ease. Indeed these spaces will constitute the fulcrum of all learning activity and the entire campus will be structured around them. Complementing these will be static components for auditoriums, meeting areas, display and performance areas etc. The overall manifestation will be a strongly interconnected set of structures, based upon forms of growth and visionary architecture, utilising the sky, the earth as well as the ocean of the metaverse; creating a visionary/virtual campus for creative activity in that geography. In fact what has been described here can be summarized with one word alone: A Holodeck.

The Groundcourse emphasising behavioral change as a founding principle for enabling creativity, utilized the enactment of new personalities as educational strategy. This corresponds to present day role-play in the metaverse. Research conducted in cyberpsychology substantiates this importance of role-play, the aquisition of alternative characters and indeed the aquisition of many alternative selves for behavioral change not only within the virtual environment itself but also, by extension, in real life (Yee 2007). Beyond role-play, the importance of playful activity itself as well as the building of concrete objects, i.e. toys, in the development of creative thinking, as proposed by Papert (Papert 1990), is yet another key concept that can be adapted with facility to the Groundcourse methodology. Thus much insight can be attained from a critical examination and re-interpretation of the Groundcourse philosophy as a pedagogical model for the enablement of creativity in a metaverse (Ayiter 2008).

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