A FORMALIZED MODEL OF MULTIPLE SELVES IN MUD'S

by

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We will investigate the concept of the self (and its relation to personal identity in multiple cyber worlds). This investigation has its own justification, the fact that several questions concerning personal identity are answered by constructing examples of thought experiments involving fictional worlds. Thus it seems legitimate to us to discuss the problem in the framework of "concrete" alternative worlds which we call cyber worlds. The next section deals with a brief history of the problem of personal identity in modern philosophy and introduces the concept of the "self". In section 2 we introduce conceptual frameworks that illustrate the idea of the self as composed of information in multiple cyber worlds and as a result pose some important questions to be investigated further, we finally conclude with section 3 and we consider how some concepts from anthropology may be applied to the study of the Cyberspace. Some authors tend to confuse, or overlap the concept of virtual communities or reality with the concept of Cyberspace because this is a rather vague concept. In this paper we consider virtual communities and virtual reality as just one portion of the Cyberspace. At the moment we are not going to try to answer fundamental ontological questions such as: what is Cyberspace? Is it or does it have a dimension? We assume that there exists a Cyberspace, a sort of electromagnetic space (and this space may be divide into modules), where a virtual interaction might be created and we will refer to this as a virtual world.

KEYWORDS

MUD, multiple selves, personal identity, cyberspace

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1. SOME CLASSICAL THEORIES

A tree and rock, let say, can be distinguished in terms of their different properties. We might then go further and insist that this also forms the basis for ascribing individuality to them. This forms the basis of the so-called 'bundle' view of individuality, according to which an individual is nothing but a bundle or properties. We could write this as follow:

$$IO_1=(p_1,\ldots\ldots\ldots\ldots,p_n)$$

Where the identity of an object O_1 is denoted by $I(O_1)$ and it is given by the list of properties $p_1\ldots p$ which are the properties that individuate this object. On this view, no two individuals can be absolutely indistinguishable, or indiscernible, in the sense of possessing exactly the same set of properties. This last claim has been expressed as the Principle of Identity of Indiscernibles (Leibniz, see Loemker,1969).

A more thorough-going criticism of this property based approach to individuality insists that it conflates epistemological issues concerning how we distinguish objects, with ontological issues concerning the metaphysical basis of individuality. Thus, it is argued, to talk of distinguishability requires at least two objects but we can imagine a universe in which there exists only one. In such a situation, it is claimed, it would be inappropriate to say that the object is distinguishable but not that it is an individual. Although we do not actually find ourselves in such situations, of course, still, it is insisted, distinguishability and individuality should be kept conceptually distinct.

If this line of argument is accepted, then the principle of individuality must be sought in something over and above the properties of an object. One candidate is the notion of substance, in which properties are taken to inhere in some way. The English philosopher John Locke (1632 – 1704) is one of the great pioneers in this area of research in the modern ages. In his fundamental work "An Essay Concerning Human Understanding" Locke claims that personal identity is founded on consciousness, and not on the substance of either the body or the soul. We are the same person in the sense of continuous consciousness between past and present in our thoughts and memories. Thus personal identity is fundamentally based on the repeated act of consciousness. In this respect personal identity is iden-

tity of consciousness and not identity of some substance (the body may change, but the person remains the same, argues Locke).

We can also draw a distinction between two sorts of question about identity. First, we can ask what makes it true that an individual that we encountered at one time is the same individual that we have encountered at some earlier time. This is a metaphysical question – a question about being. It can be distinguished from a second question: how can we tell that an item encountered at one time is the same individual as that encountered at another? This is an epistemological question – a question about knowing.

The difference between the epistemological and the metaphysical question needs to be kept in mind when considering identity in virtual worlds. What "criterion" we can use to tell the difference between one thing and another is an epistemological consideration; a metaphysical consideration is one that determines whether one item is identical with another. The problem of identity over time is first and foremost a problem about change. How much can an individual change and yet remain the same individual? Are there particular kinds of change that an individual cannot undergo without ceasing to exist as the same individual? Certainly there are innocuous changes and everyday changes that individual items undergo without any threat to their identity. You can repaint your chair, yet the chair remains the same chair.

But there are limits; there are changes that you could make to your chair that would mean that the chair no longer existed. If you were to dismantle the chair and use the pieces to make a sledge, we could not say that the sledge was the same thing as the chair. But suppose that you dismantle the chair and immediately put the pieces back together in exactly the same way. In this case, many people would say that you have the same chair, however this raises some puzzles. Did the chair still exist while it was dismantled? Or did it go out of existence for a time, and then come back into existence? In the next section the areas that have been discussed here will be examined further in relation to the idea of "identity" in MUD's.

2. SELF AND CYBERSPACE

Gilbert Ryle in "The Concept of Mind" (1949) provided a description of René Descartes' Mind-Body Dualism (where a categorical (ontological) distinction between mental activity and physical activity is presented) introducing the expression "the doctrine of the ghost in the machine". Personal

identity is conceived with a psycho logistic conception based on the doctrine of the Ghost in the Machine and with a materialistic characteristic. In this "Cartesian Theater", using terminology developed by Daniel Dennett (Dennett, 1991), the Self is not attached to the physical body, but rather is comprised of a collection of mental states. This vision of personal identity has a deep relationship with contemporary information theories. We may here look to Daniel Dennett's "Multiple Drafts Model of Consciousness" which is a theory of consciousness based upon cognitivism and views the mind in terms of information processing.

According to this model, there are a variety of sensory inputs from a given event and also a variety of interpretations of these inputs. The sensory inputs arrive in the brain and are interpreted at different times, so a given event can give rise to a succession of discriminations, constituting the equivalent of multiple drafts of a story. As soon as each discrimination is accomplished, it becomes available for eliciting behavior; it does not have to wait to be presented at the theatre. In the next section we will look to this conceptual model for an explanation of the evolution of the real self when it interacts with the virtual environment.

Following Norbert Weiner's words, the father of cybernetics, we may say that a person is something which can be sent in a telegraph, indicating that the self can be considered as a body of information. The main point is that, if a person is constituted of nothing more than thoughts and memories, in other words, composed of information then this information can be reduced to a collection of bits. "The conception of Self as a body of information is realized in a rather interesting fashion in life on-line (Second Life). In the process of constructing an identity on the internet , (homepage, nickname, and behaviour-text-based information) as a person runs more and more of his/her life on-line, so the manner in which he/she presents him/herself on-line constitutes a more central component of his/her identity" (Shay, 2006). We also might go further with our analogy of the thoughts and memories with bits and say that people are simply programs, these programs act not only in the real world but also in virtual worlds and in general in the cyberspace.

Figure 1 below is one way such a representation can be viewed. Let the "real" world be symbolized by W, this is the world where the individual exists and performs the daily duties concerning survival. The self in this world can therefore be symbolized by S(w) and according to what has been

discussed above we could say that S(w) is composed of information from the real world, W this can be partly formalized as:

$$\mathbf{Sw=I_{r1},Ir_2, \ldots\ldots, I_{rn}}$$

Now, in the cyber world C_1 the "self" can be represented as $S(C_1)$. The process of composition of this "new self" in the cyber world may utilize part of the information content Irx from the real world W, via such an interaction with the cyber world C_1 a "new self" $S(C_1)$ is "created", composed of specific information from the cyber world C_1 and the real world W.

$$\mathbf{SC_1=Ic_{11},Ic_{12}, \ldots, I_{rx} \ldots., I_{rc1n}}$$

An important point to note here is that S (C_1) is a relation of S (W), we could represent this as follows:

$$\mathbf{SC_1=R(SW)}$$

"R" takes on the role of a "psychological continuous" relation to be detailed later on. For example, part of what characterizes the self in the real world (I have labeled this as S(W)) could be represented by certain information content that the individual has experienced in the real world, such as generally being a generous person and in particular under certain circumstances being generous for self interested reasons. Experience related to this particular virtuous character could be symbolized by Irx. When this individual interacts with the cyber world , C_1 (under a different character) Irx is utilized to ones advantage with experiences encountered in the cyber world C_1 and as a result of this interaction a new "self" $S(C_1)$ is formed in this Cyber World. There is therefore a relationship between the real world and the cyber world formed by such an interaction. We could assume that there are two series of thoughts governed by their respective information content, and that they are both mine, one in the cyber world and the other in the real world, although these thought processes take place in distinct spatio-temporal locations one could consider the feedback and the formation of the "new self" $S(C_1)$ associated with the formation of memories with information content relating to events in the cyber world and the real world.

Here we can look to Taylor (2002) who discusses how social life gets created online and how attendant communication occurs; he says that avatars are particularly powerful artifacts to consider. They prove to be the material out of which relationships and interactions are embodied: much as in offline

life with its corporeal bodies, digital bodies are used in a variety of ways- to greet, to play, to signal group affiliation, to convey opinion or feelings, and to create closeness. At a very basic level, Taylor says that bodies root us and make us present to ourselves and to others. Avatars form one of the central points at which users intersect with technological objects and embody themselves, making the virtual environment and the variety of phenomenon it fosters real.

In the above example the notion of presence in virtual worlds is invoked to relate information content Irx from my real self to the "creation" of the virtual self in the cyber world (see Fig. 1). Taylor continues to say that "presence" is one of the most elusive and evocative aspects of virtual systems- and yet it forms the very foundation on which immersion is built. It goes to the heart of what feels "real" and creates the quality of experience that signals to us "I am here". There is ample evidence to indicate (see for example Warburton 2006) that users do not simply roam through the space as "mind", but find themselves grounded in the practice of the body and the world. This grounding of presence in the virtual world not only consists of embodied practice, but of embodied social practice. The bodies themselves thus act as agents of engagement and in the virtual world users have learned to delegate their agency to body-representatives of other individuals.

The feedback to the real self could be formed of memories due to a combination of experiences and social interactions with characters in the cyber world. One could consider this as two sets of memories (information content) in one mind, one of them being due to my experiences in the real world and the other belonging to the character in the cyber world. There is evidence that this feedback to the real self can be strong. Taylor discusses the case of "Meg" where the level of immersion into the virtual world had created a strong dependency and a connection with the real self, her digital body had come to be tied to her identity. Taylor also discovered that this was the case with most users. There are several questions that arise concerning identity of the self in virtual worlds in relation to what we have just discussed and elaborated upon in the previous section. For example, how is the identity of the real person related to their identity in the virtual world? What does the relation "R" that we have invoked consist in?

We may here look to Bernard Williams who presents similar arguments in relation to several puzzles about divided minds in the arena of personal

identity. Williams presents arguments that cast doubt on the widely held view that people are essentially minds, or that mental or psychological considerations are decisive in issues of personal identity. Williams suggests that bodily continuity plays a critical role in establishing who the person is and begins by proposing that a memory belief will count as a genuine memory of an event only if that memory belief has been caused by that event; he also suggests that it may be important that the causal chain linking the event to the memory belief should not run outside the person's body. The question how can we distinguish between apparent and genuine memories is an old one, and has generated literature of its own. So, if I were to originate an avatar in Second Life and experience certain situations as my avatar then Williams would say that these memories are not "memory beliefs" as the causal link runs outside my body. However, as discussed earlier, if there is relational feedback of experiences from the virtual world to the real world we could say that such *memories* could be memory beliefs of the type Williams is indicating. How do these memory beliefs relate to my being psychologically continuous with my avatar?

Parfit in his book "Reasons and Persons" insists that there is a gradual unfolding and development of a particular psychology. With reference to Fig 1, what does it mean to say that B's psychological states are continuous with those of A? According to Parfit we could say that a set of psychological states S1 can be described as continuous with a later set of psychological states S_2 if S_2 is "developed" from S_1 either directly or through a series of intervening steps. Such a development process could be described by our "psychological continuous" relation. Although this process of development may involve change, any changes must be gradual. There are ways in which it is natural or appropriate for a line of psychological states to develop; for example, my belief that a friend is in danger naturally gives rise to a feeling of anxiety and a desire to help. In this sense, a continuous line of psychological states will develop in a way that is both gradual and natural.

Why does Parfit suppose that it is psychological continuity that we care about, and not bodily continuity? He seems to be assuming that the pattern of our lives depends to a much greater extent on our psychological features than our physical qualities. Parfit introduces the idea of q-memory to get around the problem that continuity of memory presupposes identity. He presents a clear definition of q-remembering in his paper and bases psychological continuity on the notion of q-relations. The basic notion underlying

q-relations, such as q-memory and q-intentions, is that they do not presuppose identity of the person. Paraphrasing Parfit' s definition of one such q-relation, q-memory must consist in: (1) a relation with a past experience that seems like a memory, (2) the actual happening of such a past experience to some person, and (3) the acquisition of the relation with the past experience in the normal fashion in which memories are acquired.

Thus, q-relations are a subset of relations (i.e., all memories, both real and apparent, are q-memories) and avoid the problem of circularity, by not presupposing the identity of the one bearing a memory. Parfit bases psychological continuity on the continuity of q-relations, such as q-memory, q-intentions and q-anticipation, rather than on a one-to-one relation, psychological connectedness, of real memories, as does the memory theory of personal identity. Utilizing Parfit's idea we can develop our model and provide some substance to the relation "R", the "psychological continuous" relation mentioned earlier. "R" can be related to the idea of q-memory; such a relation will therefore be a relational mapping between S(W) and S(C) as shown in Fig. 1. "R" would therefore be invoked whenever an individual forms an avatar and interacts in the virtual world.

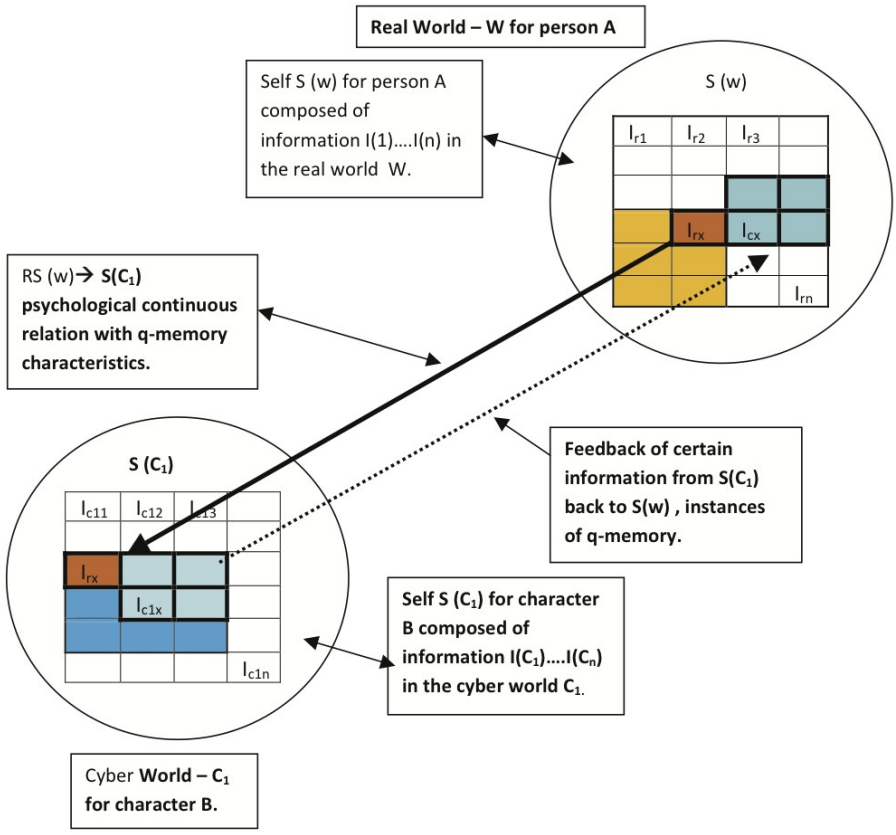

FIGURE 1: REPRESENTATION OF REAL WORLD SELVES AND THEIR INTERACTION WITH THE CYBER WORLDS

We can extend this model and consider the interaction of several cyber worlds C_1, C_2,… this is shown below in Figure 2 on the next page.

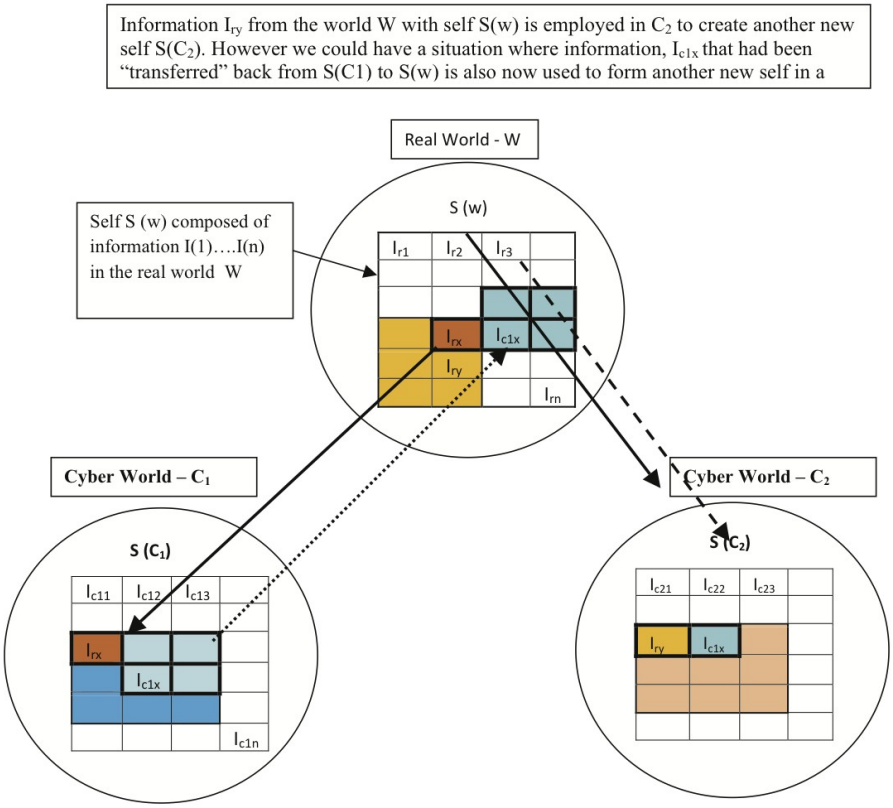

FIGURE 2: REPRESENTATION OF SEVERAL CYBER WORLDS

Considering the interaction of several such multiple cyber worlds there are several questions that arise due to such a model: How are these "layers of information" formed when the individual experiences these different cyber worlds? Do selves in different cyber worlds have the same kind of moral responsibility as they do in the real world, W? How can we characterize a "virtual moral experience" in such multiple cyber worlds? Questions relating to identities in cyber worlds having moral status can be considered as reasonable because we started from our assumption that thoughts and memories are collection of bits or simply programs. The point here is that, if this is plausible then the following question might be reasonable and well-founded as well: do programs have a moral status?

As pointed out by David Cole in "AI and personal identity" (1991), a conception of self as a body of information allows the possibility of several

persons existing in a single body hence according to the above model S(W), $S(C_1)$, $S(C_2)$,……., $S(C_n)$ would all exist in a single individual. These ideas tend to see unity of body as a motivation to accept a unity of self, but since even this conception of unity of body is under attack since the late 20th century (see Richard Dawkins The Selfish Gene (1990)), and in light of the contradicting empirical evidence, this position is maintained by a minority of thinkers today (Shay, 2006)). Another consequence of the conception of the self as body of information is that a person might be seen as something decentralized, and less consistent and uniform.

3. ANTHROPOLOGY OF CYBERSPACE

As it has been widely noticed, Internet life emphasizes this embedding in the concept of information. "Life in virtual worlds enables these sorts of divisions, which are nothing more than projections of what exists internally. Several windows open simultaneously and multiple examples of the Self are replicated and projected into the Virtual space" (Shay, 2006). Shay called it the complementary approach. Cyberspace is the arena where divisions of the Self are possible. The space itself has a normative side which encourages this splitting and maintains a complementary role. Sherry Turkle in her "Construction and Reconstruction of Self in Virtual Reality: Playing in the MUD's" interprets the cyberspace in this manner and it sees it as a realization of these ideas. Her references here are definitely Foucault and Derrida, who assert that we live in a society that demands a coherent Self. Their work also emphasizes the fact that beyond the normative aspect this kind of society gives an intrinsic positive value to the self who is monolithic and uniform. This depends on the cultural context, in fact in other communities the lack of consistency and uniformity is not only legitimate, but also welcomed. Tribal examples are classic examples of situations where a decentralized or divided Self (e.g. a state of trance) is normative.

Technically these divided states are called "liminal states"; border-states where the Self is "neither here nor there". To the traveler in a rite of passage, personal characteristics become indistinct. She/he is not as she/he was before, but is still not what she/he will become. The liminal state is characterized by bizarre elements. Through abnormal strangeness, the traveler goes through a deconstruction and reconstruction of subject.

Thus the liminal state is infused with creative force and its space is an "anthropological arenaS[1] hidden and magical. In this manner it configures itself as opposed to the familiar space where work and the normal life takes place. "Liminal entities are neither here nor there; they are betwixt and between the positions assigned and arrayed by law, custom, convention, and ceremonial (Turner, 1964)". In the modern society appears the liminoid state and the difference among them and liminal assume great relevance when we go down to the distinction between play and work. Liminoid phenomena emerge in feudal, but predominantly capitalistic societies with a complex social and economic division of labor. With stress on individuality and open ended processes, they are seen to occur within leisure settings apart from work, are experimental and exploratory, forming social critique and providing the potential for the subversion of the status quo. The essence of liminoid is characterized by the permanent change and the role-playing aspect which confers to the player a greater freedom and flexibility.

Thus the main dissimilarity among liminal and liminoid states consists of the fact that the former are characterized by transitions towards some defined end where the change becomes permanent and stable. In this way liminal cultural phenomena are perceived to be collective, integrated, and obligatory ritual action of pre modernity (tribal and early agrarian cultures), enforced by necessity but containing the potentiality to create new symbols, models and ideas. We might see them as collective representations, symbols having common intellectual and emotional meaning for all the members of the group. On the other hand, liminoid phenomena emerge in feudal, but predominantly capitalistic societies with a complex social and economic division of labor. Individuality and open ended processes are the key elements in this context; they are seen to appear when leisure is conceived as opposed to work; in this respect they are highly experimental and exploratory, and the form the social critique which could provide the potential for the subversion of the status quo. We can interpret liminal as part of the society, an aspect of social or religious ritual, while the liminoid is a break from the actual society.

[1] See <http://total.eclipse.co.il/2006/10/01/personal-identity-in-the-information-age-dotperson-dotcommunity/ - footnote-16-80 >

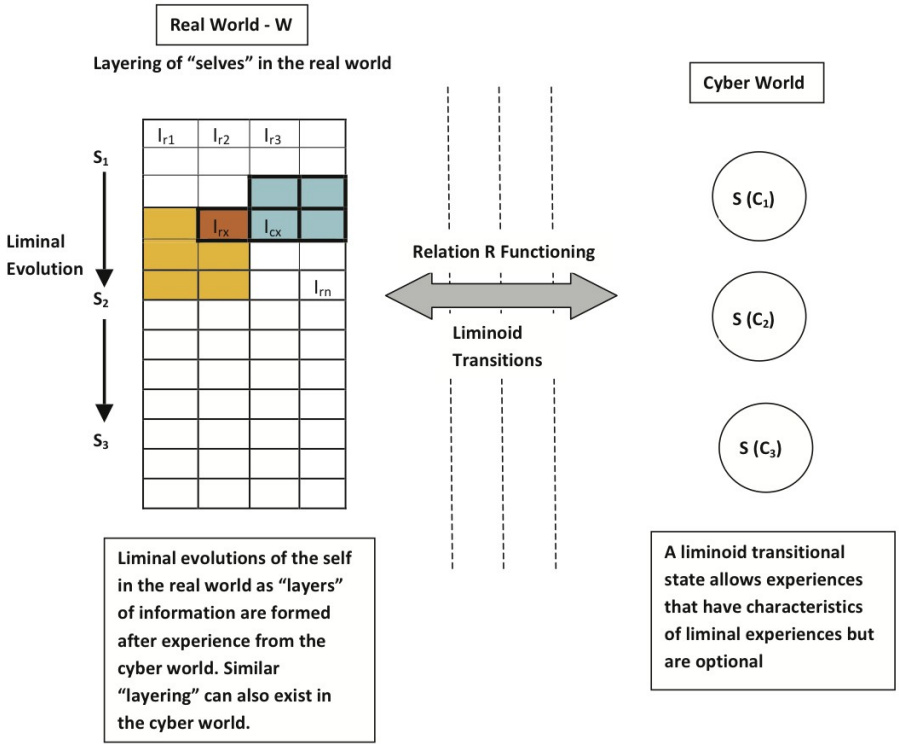

FIGURE 3: LIMINOID AND LIMINAL STATE ANALOGIES WITH THE SUGGESTED MODEL

In this sense, Cyberspace definitely has some liminoid characteristics; anyone can plug in and be somebody else for a few hours as depicted by the model explained in Figs. 1 and 2 and detailed further in Fig. 3 below. Movement of the individual from the real world, W into the cyber world C_1 in order to experience the cyber world and as a result allow a composition of a self, $S(C_1)$ in this cyber world can therefore be considered as a liminoid transitional state. Such a state would allow the individual to have experiences that have characteristics of liminal experiences but are optional for the individual as such an individual can decide to engage or not engage with C_1. The subject moves between leisure and seriousness, work and play, enters the virtual world and exits it, essentially a two way relational process is initiated once a virtual identity is formed. Liminal evolution of the self can be viewed as the composition of "memory" layers of information forming the self after experiences from the virtual world as shown in Figs. 3 and

4. Essentially a one way process is taking place between the real and virtual worlds. In this manner every social interaction in cyberspace contains a dominant component of playfulness which weakens the normative side of work and the cyberspace game becomes a social simulation for the outside world in which the main actor is a hybrid social player that moves in a different "dimension" and explores a different "interaction".

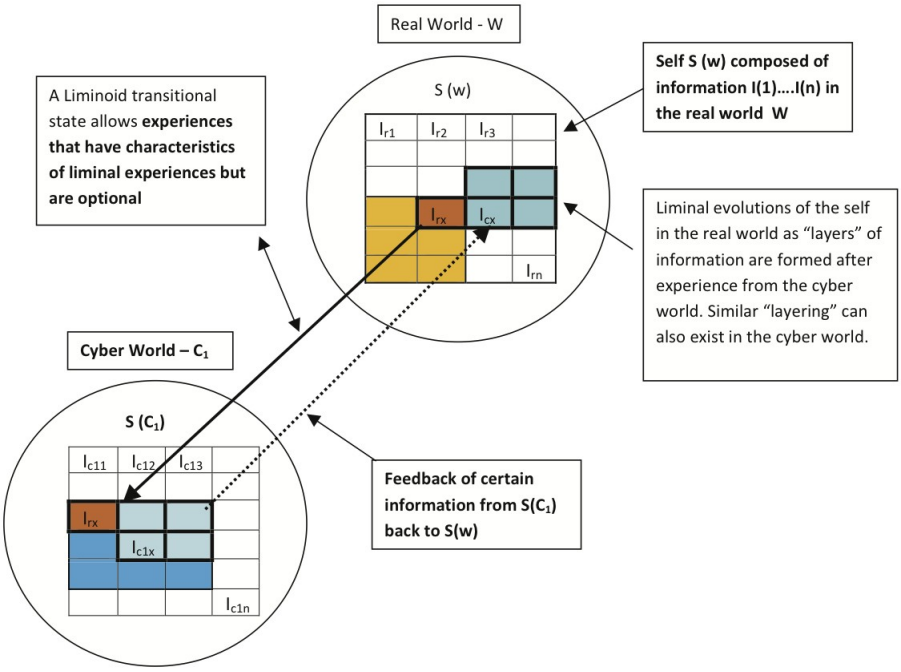

FIGURE 4: REPRESENTATION OF REAL WORLD SELVES AND THEIR INTERACTION WITH THE CYBER WORLDS AS LIMINOID AND LIMINAL STATES

4. CONCLUSION

In this introductory paper it has been our intention to produce a framework for assisting in the formulation and development of the concept of identity in virtual worlds. A two way psychological continuous relation anchored in Parfit's q-memory was put forward as a mode that connects the real self with the virtual self (the avatar). From an anthropological point of view a liminoid state was related to the two way relation that mediates between the real self and the virtual self. The liminal state was related to the evolu-

tion of layers of information that defines the self in both the real and virtual worlds after the relation has been initiated. Several questions have been raised as a result of these elaborations and our intention is to explain theses further and provide some answers in further papers.

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