MULTIPLE PERSONALITIES AND THE PROTEUS EFFECT IN COLLABORATIVE VIRTUAL ENVIRONMENTS. A WITTGENSTEINIAN VIEWPOINT

by

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What does it mean to be you? How drastically can a person change and still remain, in the eyes of either themselves or their peers, the same person? Until recently, these questions were typically asked in the context of philosophy, psychoanalysis, or science fiction. However, the increasingly common use of avatars during computer-mediated communication, collaborative virtual environments (CVE's) in particular, are quickly changing these once abstract questions into practical quandaries that are fascinating, thought-provoking, potentially paradigm shifting for those who study social interaction, and potentially devastating to the traditional concept of human communication. Given the advent of collaborative virtual reality (CVR) technology, researchers have begun to systematically explore the phenomena of Transformed Social Interaction (TSI)[1].

The Proteus effect is a particular application of TSI in which a user's self-representation is modified in a meaningful way that is often dissimilar to the physical self. When the user then interacts with another person, the user's behaviour conforms to the modified self-representation regardless of the true physical self or the others impressions.[2] In an earlier introductory paper[3] we detailed a conceptual framework that illustrated the idea of the self as composed of information in multiple cyberworlds, this tentative framework was utilised to explain a "layering"

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1 Bailenson, Bealle, Loomis, Blascovich & Turk, 2004

2 Yee & Bailenson, 2007

3 Cavagnetto & Gahir, 2009

feedback process that may occur as a result of the self interacting in a CVE, in addition we expanded this framework to integrate an anthropological viewpoint of the self.

In this paper our intention is to provide further understanding of the relationship between the Proteus effects and the conceptual model of multiple virtual personalities interacting in CVE using the Wittgensteinian language games framework, we expand our earlier paper to suggest that the notions of a "virtual personality" and "virtual game grammar" may hopefully bring a refreshing approach to examining the Proteus effect.

KEYWORDS

Virtual, virtual personality, language games, transformed social interaction, cyberworlds, virtual game play, semiospheres

1. THE PROTEUS EFFECT AND COLLABORATIVE VIRTUAL ENVIRONMENTS

When people play video games and interact in virtual environments, they adopt social stereotypes and roles (e.g. soldier, doctor, mafioso, wizard) and interact in situations that go beyond real life (Shapiro, Pena, & Hancock, 2006), people "become" someone else by employing digital bodies or avatars that serve as users' self-representation in a virtual setting.[4] In doing so, does our cognition change in relationship to our virtual persona? And if so, what mechanisms underlie the influence of avatars on users cognition?

In such virtual environments, an avatar is defined as "a perceptible digital representation whose behaviour reflects what is executed, typically in real time, by a specific human being".[5] CVE's encompass both digital environments created for communication applications as well as online games created for entertainment purposes.

CVE's allow us to tailor our digital self-representation with a degree of control not possible elsewhere. This encompasses both visual and behavioural changes. First of all, CVE's, provide us with a great deal of control over our self-representation. Everything from our age, gender, ethnicity, or height can be dramatically altered or subtly tweaked with a few mouse clicks. Analogous changes to our physical bodies are much more difficult (or impossible) to accomplish. Because digital systems mediate all interac-

[4] Eastin, 2006; Yee & Bailenson, 2007

[5] Bailenson & Blascovich, 2004, p. 65

tions in a CVE, the digital system can also be programmed to strategically filter and alter our behaviours. This has been referred to as Transformed Social Interaction (TSI).[6]

Research in CVE's[7] has shown how the technical affordances of these environments can lead to more intimate interactions. For example, studies in TSI have shown how strategic changes in an avatar's appearance or behaviour can affect how other users interact with that avatar. The current work of Yee and Bailenson[8] has explored an interesting variation of this effect. Instead of exploring how an avatar's appearance can change how other people behave, they were interested instead in how an avatar's appearance can change the user's own behaviour, the Proteus effect.

Studies in self-perception have shown that altered self-representations can directly lead to changes in a person's behaviour but they do not provide us with a theoretical mechanism for explaining why this change might occur. Self-perception theory argues that people infer their own attitudes and beliefs from observing themselves as if from a third party[9].

In addition to observations of one's own behaviour, several studies have demonstrated that observations of one's own appearance can lead to changes in behaviour. Frank and Gilovich's paper[10] on the effect of wearing black uniforms best illustrates the causal chain underlying this process. They were interested in whether wearing black uniforms caused athletes to behave more aggressively. In their paper, Frank and Gilovich explained their findings with direct application of Bem's self-perception theory, arguing that participants in black uniforms observe themselves as if from a third-party to infer their expected attitudes and behaviour. This effect has also been replicated in a digital game-like setting, where users given avatars in a black robe expressed a higher desire to commit anti-social behaviour than users given avatars in a white robe.[11] The self-perception effect has also been shown to lead to behavioural changes more directly (rather than just simply a desire to behave in a certain way).

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6 Bailenson, Beall, Loomis, Blascovich, & Turk, 2004
7 Walther, 1996
8 Yee and Bailenson, 2007
9 Bem, 1972
10 Frank and Gilovich, 1988
11 Merola, Penas, & Hancock, 2006

Furthermore, experimental studies have demonstrated the Proteus Effect in immersive virtual reality.[12] In a series of two studies, it was found that the attractiveness or height of participants' avatars had a significant impact on how they interacted with a confederate and these studies show that even small changes to our avatars can lead to immediate and significant changes in how we behave and interact with other people in a virtual environment.

Thus in general, we may expect users to make inferences about their expected dispositions from their avatar's appearance and then conform to the expected attitudes and behaviour, the Proteus effect.[13] So far, the experimental studies we have referred to 3 above have been suggestive, but have not provided a specific framework that might explain how an avatar could directly change a user's behaviour. Self-perception theory offers a tentative framework to explain some of the above findings; in the next section we propose a Wittgensteinian language games framework for collaborative virtual environments, we introduce new concepts that may assist us to view the Proteus effect from a different point of view. We begin by introducing the concept of Wittgenstein's language games and the "grammar" of language.

2. WITTGENSTEIN'S LANGUAGE GAMES AND COLLABORATIVE VIRTUAL ENVIRONMENTS

Through his articulation of language and its practice as a type of game, Wittgenstein has been both adopted and critiqued for purposes of circumscribing what are now commonly held as the necessary constituents of games including their systemic nature and the acquiescence of their participants to an agreed-upon rule structure: a set of rules which Wittgenstein likens to the "grammar" of language. However, the relatively recent consideration of Wittgenstein's work as a contributor of modern game theory and its application to virtual environments is at very least intriguing given that it was Wittgenstein who originally turned to games as a model for the dynamics, boundaries and rule-based activities of language.

The first Wittgenstein, in the earlier philosophy of the Tractatus (TPL) (1961) thought language as a picture of the world. In the Philosophical Investigations (PI) (2001), this view was repudiated and language, as a concept, came to be seen as something which cannot be defined. Language

[12] Yee & Bailenson, 2007

[13] Yee & Bailenson, 2007

was no longer thought to be a simple product but came to be viewed as a complex process. The main change consists in the shift from the conceptual approach in which the logical form (or structure) of the language tends to reflect, in a pictorial manner, the real world, to the view of the language as an activity, as a complex process which comes and develops as a part of natural history.

The word "language" is not the name of a single phenomenon but it is the name of the class of an indefinite number of "language games". Wittgenstein's analogy compares a language and an ancient city: Our language can be seen as an ancient city: a maze of little streets and squares, of old and new houses with additions from various periods; and this surrounded by a multitude of new boroughs with straight regular streets and uniform houses. (PI§17)

Language games are therefore all activities in the language that we understand, expressions of our "form of life" (PI§18) because as Wittgenstein states, "to imagine a language means to imagine a form of life" (PI§18). A language game is a whole "consisting of language and the actions into which it is woven." (PI§19). A language game cannot be understood outside the context into which the language is woven. The total environment in which the language is used is part of the language game. If, in any given language, one cannot ask questions, give orders, describe things, or make requests, then these activities do not exist there. That is what seems to be meant by saying that language games are expressions of a "form of life". The study of language games means the study of the use of language against the background and within the context of a "form of life".

Understanding language on the model of games, Wittgenstein asserts that games, like languages, are rule-based modes of practice that are to be considered part of their own "form of life" (PI§16). This is not to say that "form of life" is a designation exclusive to games or even languages, but acknowledging games as being embedded within "forms of life" is undoubtedly the first step in using Wittgenstein's concept of language games as a means to conceptually examine "virtual game play". Wittgenstein's detailing of language games and forms of life supports the idea that a language game, itself, is not only a culmination of words and utterances, but a meaningful activity, a practice that intones a particular organic quality and which is ontologically rooted in the dynamism of those participating. It is an activity capable of changing, evolving and growing through it very con-

duct. A nebulous and yet fundamental concept, "forms of life" to Wittgenstein is what enables language games to function as they do: it is the fertile soil that allows the growth and development of language games and acts as the basis from which language grows and develops. It is the underlying foundation for human understanding and meaningful exchanges within particular conditions and cultural contexts and thus for language games, themselves.

Wittgenstein aims to make it clear that the term "language game" is meant to bring into prominence that the speaking of language is part of an activity, or of a "form of life", it is the "whole consisting of language and the actions into which it is woven" (PI§13). It is salient to note that language games are embedded within forms of life: that is to say that, language games are something that occur within a particular form of life. Hence, "virtual game play" may be considered part of the forms of life of "play", or "commerce", or "cultural recreation": the boundaries between forms of life and language games, in particular, are innately blurred over one another. Language games are "active" and are made comprehensible by the form of life in which they are nested. In a similar manner, virtual game play may also be considered as "active" being nested in a form of life and being constantly protean and culturally situated phenomena rooted in action and in practice.

It is language and its meanings that serve as the supporting pillar of our own epistemologies and as a result, language can cement a given epistemology and paradigms within it through the adoption and use of its conventions. Wittgenstein cites the example of philosophy, itself, noting that the reason we are "still occupied with the same philosophical problems as were the Greeks...[is] because our language has remained the same and keeps seducing us into asking the same questions" (PI§20) However, before applying Wittgenstein to a conceptual understanding of virtual game play, it must be clarified as to what we mean by "virtual game play".

3. "VIRTUAL GAMES" IN SEMIOTIC DOMAINS

With a certain sense of understanding concerning Wittgenstein's language games in tow, outlining what constitutes "virtual game play" is crucial to the understanding of some of the ideas presented in this paper. What can we learn by mobilizing Wittgenstein's "language games" approach as a way

to interrogate virtual game play and the intentional structuring of virtual games themselves?

At first glance, as with many other processes, activities and rituals, virtual game play has its own language, its own terminologies, its own discourses, its own way of addressing phenomena within the "space" of the game, within a genre and within a method of development (i.e. programming tools). There are also the languages of play within a "virtual community", the manipulation and exchange of formal language transformed into action, the following of rules, and the abidance of etiquette, colloquial banter and the development of terminology. All of these things are situated within, even as they situate the very act of play within a virtual environment; they are the languages and the activities constitutive of the language game of "virtual game play". The idea of looking at the way how language shapes the way we speak and ask questions within any "form of life" as outlined in Wittgenstein's concept of language games already demonstrates a glimmer of relevance to virtual game design-but what is it that "virtual game players" are actually doing within the "space" of the game? To begin answering this question we need to focus initially on the "virtual space" wherein the dynamics of virtual play occurs.

James Paul Gee, asserts that when one engages in a virtual game, one partakes of a preconstructed semiotic space which comes with its own form of literacy.[14] Semiotic domains, in Gee's own phrasing, are "any set of practices that recruits one or more modalities to communicate distinctive types of meanings" (2003, p. 18), or in the words of Jason Craft, "distinct and embodied contexts, matrices of environmental attributes and, crucially, social practices in which signs are given a distinct meaning, and in which a person can be literate".

In other words, for both Gee and Craft, the playing of virtual games can be conceived as activity in semiotic domains. Gee outlines two particularly important aspects of semiotic domains. First, there is a literacy involved in the participation in a given domain, including the linguistic and practical conventions and knowledge of the rules, signs and meanings of those signs.[15] Secondly, semiotic domains are designed spaces, and much like Wittgenstein, Gee places great emphasis on the practice that has gone into the construction of and participation in semiotic domains. A semiotic domain

[14] Gee, 2003
[15] Gee, 2001

can denote the practice of anything from "baseball" to "stamp collecting" to "stock market investing" and although Gee would note that CVE's give access to their own semiotic domains, these domains have the potential to be designed and laden with subject matter that carries with them their own set of practices and multiple modalities. Lloyd Rieber argues that these domains, or "microworlds" as he terms them can be designed or changed.

Considering the semiotic domain of Baseball as an example, the in-domain objects such as the baseball, itself, carries with them specific meanings in the context of the game and each of them are the subject of multiple modalities (i.e. hitting the ball with the bat to score points versus catching the ball off an opponent's hit before a bounce to gain an 'out'). Thus, the ball carries with it different and potentially nuanced meanings depending on the modality assumed which vary by team position, individual in-game role etc.. Baseball is an example of the way domain design determines what practices are crucial to functioning within them; practices which subsequently allow one to garner a literacy of that domain.[16] Baseball is in these ways not so different from the "virtual game player's language". In this sense, we could adopt the phrase "virtual game player's grammar", which could refer to the rules that organize elements in a "virtual game player's space", a kind of virtual semiotic participation space that sets the standards and rules for participation in a particular virtual domain with the dynamics of the rules, degrees of freedom and the loopholes that support potentiality and possibility within a virtual language, virtual game grammar can therefore be thought of as serving the fundamental groundwork in the creation, negotiation and comprehensibility of virtual semiotic domains.

One could consider such virtual semiotic domains as virtual communities, according to semiotician Yuri Lotman, "every culture begins by dividing the world into „its own" internal space and „their" external space"; this is the main function of the boundary, which he defines as "the outer limit of a first-person form".[17] Analogously, virtual communities delimit their semiotic space through the topics of interest, which can be expressed by some keywords that have the function of outlining the relevant field of communication of the community, i.e. of establishing the topics members are allowed to discuss about or the way players are supposed to play the virtual game. In other words, the virtual semiosphere defines the semiotic space

[16] Gee, 2003

[17] Lotman 2001, p.131

where interactions can occur and be meaningful for the life of a virtual gaming community: it acts as a valve that controls the community's opening towards the outside and its internal behaviour within the virtual semiosphere.

To aid our understanding of the virtual semiosphere, at this point, it is worth elaborating upon the notion of a virtual community, we begin first by shedding light on the issue of virtual identity, a pivotal concept, in CVE's. According to James Paul Gee, the relationship existing between the player and the play gives rise to three different identities:

1. The real person, i.e. the player's real world identity, which does not vanish when playing, but, on the contrary, affects the choices and the decisions that are made during the play.

2. The virtual character, i.e. the identity the player assumes as a virtual character in the game's virtual world, which is usually represented by an avatar.

3. The projective identity, an intermediate identity that is a sort of bridge between the real person and the virtual character. As a matter of fact, the real person projects his/her real world identity on the virtual one, and on the other side the virtual identity lets emerge in the real person desires and aspirations concerning the virtual character[18] developing what we term the "virtual personality".

Following our earlier work[19], we could model the above identities as information content contributing to the formation of a personality P(W) of the player in the real world W, what James Paul Gee has referred to as the real person. If we now assume C1 to represent a virtual gaming community, a semiosphere, then we could define P(C1) to represent the "altered" personality of the player while being immersed in such a community, being referred to above as the virtual character. The feedback of certain information from activity in the cyberworld influencing the personality of the player, eventually leading to the Proteus effect, could be described as the projective identity; this is depicted in figure 1.

[18] Gee 2004: 54-8

[19] Cavagnetto & Gahir, 2009

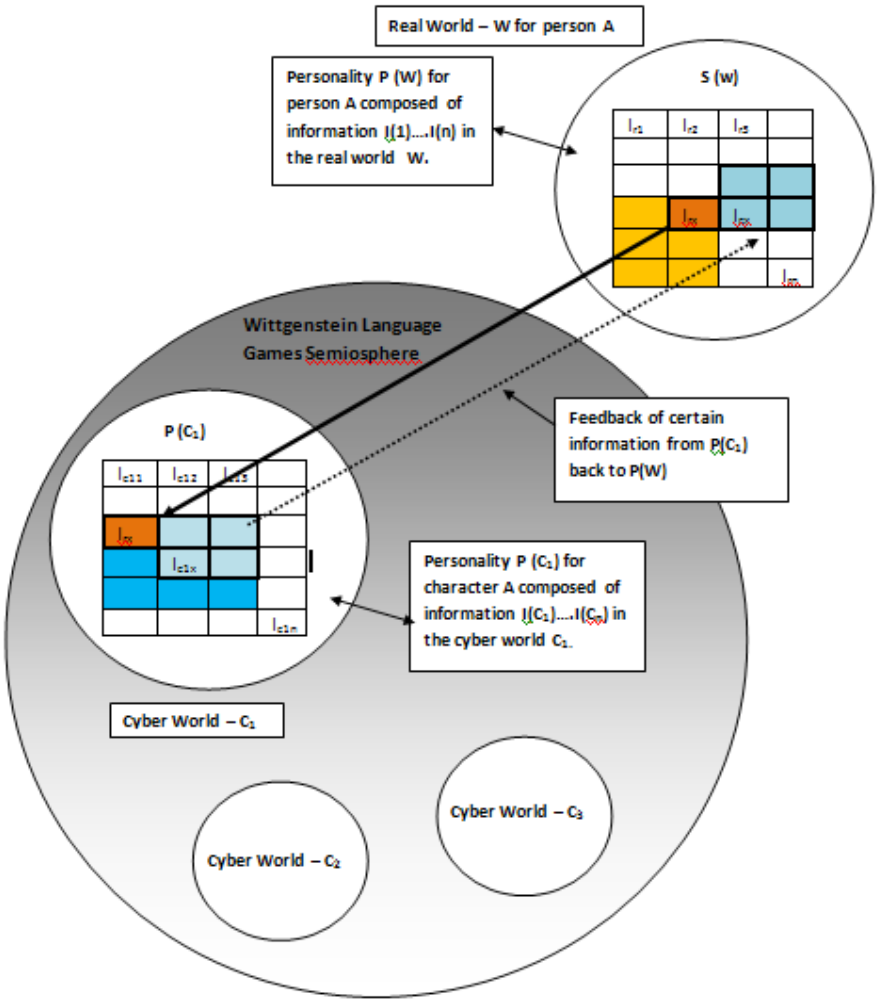

FIGURE 1: DEPICTING THE ANALOGY OF PERSONALITIES IN CYBERWORLDS AND JAMES PAUL GEE'S IDENTITIES

At the levels of the real person's and the virtual character's identities, two different virtual communities can be outlined:

1. The playing community, i.e. the community of the virtual characters, who interact in the game's world with other characters.
2. The players' community, i.e. the community of the real persons who interact with other persons who are interested in the same game; these communities are very popular and active, and are functional to the game, itself, since they can shape and modify the

> game's environment, by building new objects, new spaces, new game levels, which can be integrated in the virtual world of the game.

Thus, conduct within a language game can be conceived of as the crafting and constant refining of virtual semiospheres that can be viewed as virtual communities with their respective virtual grammars. What Wittgenstein essentially adds to our own conceptualization of a "virtual game player's space" is the epistemological ramifications of the "grammar of play". Being thoroughly entrenched in the language of a given virtual language game is to be bathed in the conventions, accepted modalities and ideologies that support a way of knowing and taking part in the virtual language game, itself.

To this point we have found utility in using Wittgenstein to speak to the nature of virtual games and play: drawing parallels between language and games has served to delineate certain features about "virtual game play", rules and consensual meaning established between participants in a given game.

To recapitulate, virtual language games are an exchange between participants which aid and assist in the development of the rules and grammars of a given virtual language game, building up an epistemology which shapes ways of describing things that convey similar meanings to all involved parties. These meanings are embedded in the social practices of the virtual language game participants in VCE's and become adhered to those social practices much in the same way that Sutton-Smith's rhetoric of play become communally fastened to a particular way of "knowing" play – a "knowing" which is also constructed through linguistic and rhetorical exchange and subsequent praxis. In this way, our application of Sutton-Smith's notion of rhetoric and epistemologies of play to virtual semiospheres and Wittgenstein's approach to meaning and the epistemologies derived from linguistic exchange exhibit a type of "family resemblance" to one another.

Further, we note that Wittgenstein's language games establish some notions that have extremely important implications for the theory of signs, since language games can be understood as the shared conceptual parameters that make it possible to identify and produce signs, and to establish relations of signification and representation. Extending this conception to virtual communities and the Proteus effect, one may consider the avatar as a

kind of "virtual symbolic mask", a kind of sign that establishes a "relation of significance" in the other player and in the user. We now introduce four independent notions that may assist us in further defining the landscape of the virtual semiosphere form a Wittgensteinian viewpoint:

1. Virtual language games (semiotic practices which, despite the term "language", are not restricted to verbal language) defining the characteristic components that govern the virtual language game.
2. The moves of the virtual language games (concrete actions performed in a given language game, the raw data of semiotic theory).
3. The grammar of the virtual language games (the conceptual architecture that determines how the signs are used), the rules of the virtual language game.
4. The "form of life" concept which is the cultural environment defining the boundaries of the virtual semiosphere in which the virtual language game occurs, the "virtual community".

These four notions above may be thought of as playing a central role in the dynamics of virtual language games and our semiotic practices can be thought of as rule-guided practices. We could therefore view the virtual game as a language game with a rule-guided way of attributing meaning to events, the value of having a different avatar in a virtual game could be determined by the character this avatar is going to depict and this in turn could be defined by a set of properties (Ap) such as height, hair colour, eye colour... the set of these properties could determine avatar appearance, we can denote this as the "symbolic mask", hence:

$$\mathbf{Ap = \{p1, p2, ...pn\}}$$

These properties could therefore determine the inferred expected behaviour which we term as "the relation of significance" with other players in the virtual game. This is not saying much, obviously, and we need to pursue the discussion further. In particular, we will need to define the nature of the rules that generate and give meaning to virtual language games and allow players immersed in the game to infer expected behaviour. But before we get into the notion of rules, or the grammar of virtual games, we need to explain what we mean about moves in language games.

This notion is very simple, but is an important one in Wittgenstein's theory. Ordinarily, we are not in contact with language games as such, but with actions performed as part of a language game: we do not see "chess",

but a game of chess; instead of "promise", we see a specific promise; instead of "novel", a particular novel; rather than "textual analysis", a particular textual analysis. In one sense, the language game is a hypothesis that we are making about the basis of individuals' semiotic behaviour, assuming that this behaviour is not random, but a function of specific rules. Most of the time, then, we are in contact with actions performed in language games yet to be identified: these actions are what Wittgenstein calls "moves" in the language games.

This is why in most sign production and interpretation practices, the raw material for a Wittgenstein-style analysis is the action, the move (or the set of moves), which we can trace back to the language game and its grammar. The text you are currently reading is a set of moves in a language game that we could provisionally call "introduction to a theory". The way in which semiotic relations operate between this text and Wittgenstein's work are directly related to the rules of this language game. The link between moves and the grammar is a close one: the moves only acquire meaning by existing within the area of discourse and action defined and delimited by the grammar.

Further the grammar of a language game – what we have also called the "rules" here – is truly the keystone of Wittgenstein's theory. The rules interdefine the elements that make up the game; they assign a role and a meaning to each element, they define the game's space and time, the participants' functions and goals, and so on. In short, they create and give structure to an area of potential discourse and actions that owe their meaning to the rules. The rules impose their order on that portion of reality in which the game unfolds.

The game's constitutive rules are the possibility condition for the actions performed in these games and sports, just as grammatical propositions are the (conceptual) possibility condition for the moves in the language games, therefore our language behaviours (among others) are moves in language games (of which we are often unaware), and they draw their meaning from the grammar of these games. And an analysis of them examines the moves in order to arrive at their grammatical possibility conditions. One of the difficulties encountered in this analysis is our familiarity with the language games, which obscures the existence of the moves, even in the clearest cases of games. For example, when we "take the opponent's rook with our bishop" in a chess game, we think we are dealing in raw facts; it does not

occur to us that these movements of objects through space can be seen as we see them only if we have integrated the interdefined concepts of pieces, movement, chessboard, square, player and capture, to name a few. The grammar of virtual games, some of which are not even named, maybe thought of as having a similar sort of familiar invisibility.

A similar analysis structure could unfold for actions in a virtual game providing us with further detail concerning activity within the virtual semiosphere and allowing us to formulate possibility conditions that could determine the "relation of significance" with other players in the virtual game and shedding light on our understanding of the Proteus effect. We have invoked and utilised the idea of a "virtual personality" in developing our explanations above, at this stage it is important to detail what we mean by this term.

4. VIRTUAL PERSONALITIES WITHIN SEMIOSPHERES

In what follows, we shall distinguish between "virtual identity" and "virtual personality". Although identity and personality are often uses as synonyms, it could be useful to draw a distinction (albeit a rather artificial one) between them. Identity is derived from identification and suggests that a subject identifies himself with an object or with some set of qualities. Personality, on the contrary, fixes more on the content of the entity that is perceived as having qualities of the subject – whether by the subject, himself, or from the outside. In some cases, there can be a personality without identification – for examples, a virtual character created for attaining some special aim or a computer software simulating a human person.

Both have personal traits but neither is an object of identification for their originators. Since we are more interested in studying the construction of virtual selves and their (often ambivalent) relationships to the "real selves" than in the process of identification, then the term "personality" seems to fit better for our purposes than that of "identity".

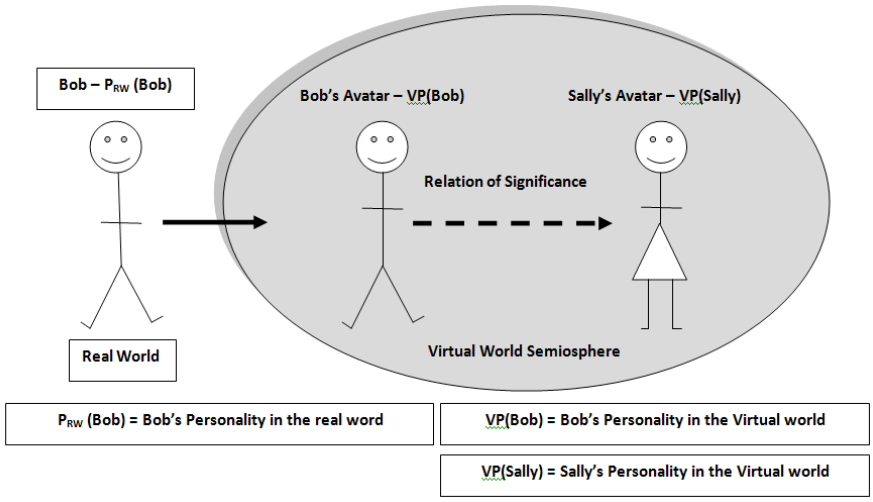

FIGURE 2: PICTORIAL REPRESENTATION OF THE RELATION OF SIGNIFICANCE

A survey of the experimental research relating to virtual personalities indicates that both users and researchers of cyberspace communities have paid attention to the following peculiarities of virtual personalities:

1. Disembodiment or incorporeality, the reduction of the personality to its semiotic manifestations.
2. Anonymity, or at least, the possibility of such (cf. popular aphorism from a newspaper caricature "On the Internet, nobody knows that you are a dog"), or semiotically speaking, the arbitrary connection between the real or "off-line" identities.
3. Freedom of providing virtual identity with any set of characteristics (i.e. extended possibilities of identification usually impossible in real life).
4. Multiplicity, the possibility of maintaining a number of different virtual identities simultaneously or successively.
5. Automation, the possibility of simulating activity of virtual identity fully or in part by using computer programmes (this links virtual personality to the concept of artificial intelligence).

These peculiarities seem to indicate that virtual personality, created through the transmission of knowledge and values in virtual semiospheres, through education and virtual communities, through virtual remembrances, and through our own ideals and symbols, is viewed as more shifting, fluctuating, mobile, and protean than ever. The opportunity for social interac-

tion in virtual communities therefore creates a sense of immersion and engagement different from anything that sensory or motor realism alone can provide.[20] Personality cues are few in the virtual world; they still exist, but in a different ways. From a semiotic perspective, the difference between the look and the self is important for the construction of virtual personality, taking on a new symbolic form in the virtual world. The idea that virtual identities are divergent from identities in the real world is common sense. Indeed, on the Internet, identity is occupied by an outside beyond itself,[21] that is, an Other, a "self" online that cannot be denied because the very existence of consciousness in the real world also implies the existence of consciousness in cyberspace, where the self takes on a different meaning and where every personality is represented rather than real. This justifies the existence of Otherness. Otherness dwells in identities and systems – both in their production of meaning and in their interpretation. Personality does not exist without meaning and interpretation, even in cyberspace. Therefore, in order to play the role of the Other, one has to produce meaning and interpretation.

However when dealing with interaction between humans and machines, individuals are confronted with a compound system of personalities, language, and (visual) communication, all of which are part of a web. Goffman[22] describes the web as a medium that represents a separation from previous modes for the presentation of self in everyday life. Geertz[23] adds that the human being is an "animal suspended in webs of significance he, himself, has spun". The virtual world is a world of opportunities for intrapersonal and interpersonal semiosis to occur. Given the magnetism and power that the Internet has on our perception and on our semiotic practice, it is obvious that not only our personalities but also space and time are being modulated in the virtual world. Indeed, the traditional demarcation between image, language, and writing is beginning to move in a radical way. Virtual environments such as the Internet have the power to create personalities and enable us to explore very new forms of authorship in a way that expresses emergent meaning. These environments can be navigated, engender new forms of experience, and be modified or radically restructured. Con-

[20] Schiano, 1999
[21] Day, 1999
[22] Goffman, 1969
[23] Geertz, 1973, p.5

sequently, our personalities begin to fluctuate or, more accurately, to float in that new space, a virtual semiotic space. As a matter of fact, one of the unique qualities of the virtual environment is that it enables the web user to have a more free-floating experience of perception. In the virtual world, he or she might choose to occupy various positions that would not be possible within actual space, where the individual's identity has a physical component.

As we have seen, virtual masks and non-disclosures of identity are part of the virtual grammar of cyberspace. Deception on the Internet, however, is not always acknowledged as such, by the receiver or the sender of the message. Philosophers like Turkle[24] argue that human beings are not deceptive on-line if only because they do not really become someone else (what they actually do is split their personalities into real life and on-line parts. An individual's personality, she contends, "is the sum of his or her distributed presence".[25]

The personality no longer simply plays different roles in different settings. Rather, the personality exists in many worlds and plays many roles at the same time. Having multiple personalities in cyberspace is not a deception but extends the range of selves that are available, what we term as the layering effect, as depicted by figure 3. People self-fashion and self-create. They "are able to build a self by cycling through many selves".[26] From this critical perspective, there is an extension rather than a different order of existence because personality is "something complex and decentered"[27], as well as dispersed and multiplied in continuous instability.[28] This is why we should talk about "alterity" instead of difference. The belief that individuals are unitary is itself an illusion.[29]

From all this, we may conclude that the boundaries between the virtual and the real are blurred, that cyberspace is a myth with its own reality and its own place (or "space"). Myth symbolizes the relationships among human beings and "real" multiple personalities. In doing so, myth establishes a rapport between communication and understanding. As Barthes[30] puts it

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[24] Turkle, 1997
[25] Turkle, 1997, p. 110
[26] Turkle, 1995, p.178
[27] Turkle, 1995, p. 20
[28] Poster, 1990
[29] Turkle, 1997
[30] Barthes, 1972

appropriately, from the beginning, myth is a communication system and a message.

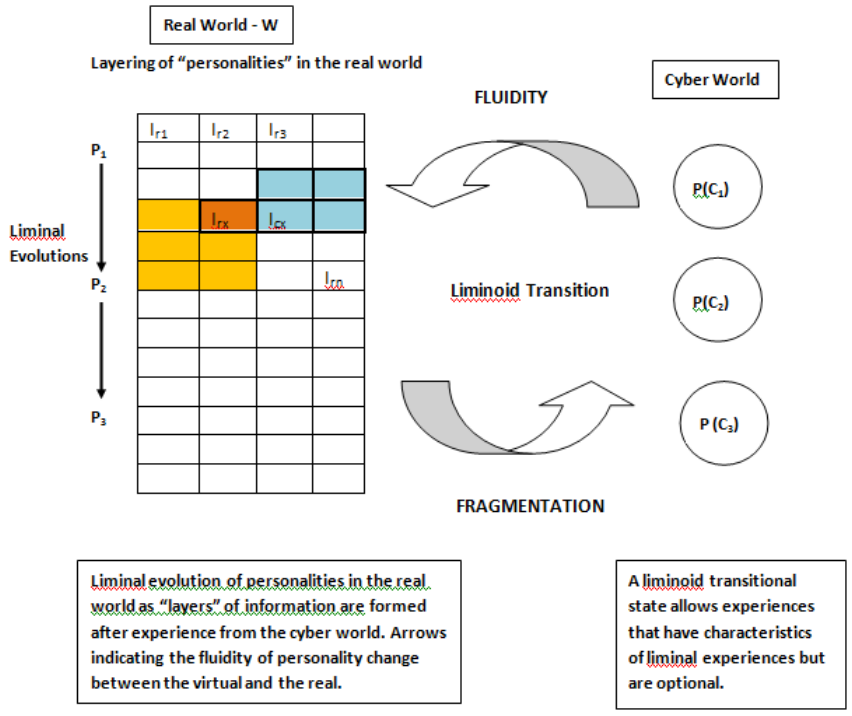

FIGURE 3: ILLUSTRATING THE FLUIDITY OF PERSONALITY AND ITS RELATIONSHIP WITH LIMINAL AND LIMINOID STATES.[31]

Thus, with these new forms of space and time, specifically in reference to cyberspace, a provocative model through which to consider the process of personality evolution is being presented. The changes of personality begins to converge under the sign of the virtual environment. We enter the nature of the real that enables the virtual and the virtual that enables the real, personality then becomes a flux between the virtual and real depicted by our model, a flux or, as Rheingold suggests, a "fluid"[32] in the sense that we take a fluid role in the construction of real and virtual personalities through different levels and qualities of interaction within the semiosphere and its lan-

[31] The ideas presented here relating to Liminal and Liminoid states are detailed in our earlier paper, Cavagnetto, S., and Gahir, B., (2009). The Conception of the Self in Multiple Cyberworlds, paper presented at the 7th International Cyberspace Conference, Brno, Czech Republic.

[32] Rheingold, 1998, p.84

guage games, the Proteus effect therefore becomes a consequence of such fluidity within a semiosphere and since fluidity implies that something can be manipulated on the whims of its creator; it also implies fragmentation, a term of postmodern identity construction, fluidity and fragmentation therefore co-exist within the grammar of virtual games. While modernist conceptions of personality are based on the ideal of a stable, unchanging personality, post-modernism sees personality as continuously being reconstructed. In other words, in the construction of virtual personalities, the disembodied world of the Internet and cyberspace seems to be a symbol of postmodernism, where many of the basic cues to personality and the social roles we are accustomed to in the physical world are absent. As a result, individuals lose their consistency, and their real lives suffer because they are living a lie and suspect that those with whom they communicate are also guilty of deception. In a similar vein, individuals are in contact with people from different cultures and with people they have met only as virtual constructs.

Consequently, by interacting beyond the stigma of real life, it is difficult to determine how personality is to be projected and what role it plays in our grammar of virtual games.

5. CONCLUSION

In this paper our intention has been to provide further understanding of the relationship between the Proteus effects and the conceptual model of multiple virtual personalities interacting in CVE using the Wittgensteinian language games framework, we expanded upon our earlier paper to suggest that the notions of a “virtual personality” and “virtual game grammar” may hopefully bring a refreshing approach to examining the Proteus effect.

The Wittgensteinian language games framework was utilised to develop some of the concepts such as “virtual game grammar” and “form of virtual life” this was related to the ideas of “virtual semiotic domains” and “virtual personalities”. Our aim has been to introduce some form of initial conceptual understanding of these concepts in the context of CVE's and to initiate further development towards developing a formalised model for virtual personalities.

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