The Evolution and Development of Self in Virtual Worlds

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ABSTRACT
Understanding the concept of Self and its relationship to virtual worlds is not a luxury. Virtual worlds render a universe not limited to present laws of nature, where perception of gravity may be suspended and humans may morph and communicate in ways yet imagined. As technology progresses, distinguishing virtual from reality may become more difficult. For some, this offers gains. For others, such as individuals with a confused sense of Self and fractured identity, this is problematic. Venturing deeper, it is necessary to explore who one is and what it means to be human. Does the concept of Self, transform and evolve in virtual worlds into something different than it is in the “real world?” If the Self is transformed, what are the implications for mental health and pathology, competency assessment, and development and experiential learning? This article explores such questions in the context of the evolution and development of the concept of Self in virtual worlds. It describes differences between major philosophical frameworks developed to explain the concept of Self and identity and provides relevant research and literature. It presents a working model to understand how virtual world technology affects the concept of Self and identity and how to maintain a healthy and stable Self and identity.

Keywords: Competency, Development, Health, Identity, Learning, Pathology, Psychology, Reality, Self, Virtual World

INTRODUCTION
Understanding the concept of Self and its relationship to virtual worlds is not a luxury. It is vitally important to the future of humanity and virtual world technology as they merge forward. With a billion accounts currently registered (KZero, 2011) and increasing in virtual worlds humanity may be at the verge of another evolutionary leap, with virtual world technologies providing the next environmental platform we must adapt to. In fact, this may be the first time in our evolutionary history when we may actually have an opportunity to design the unique environmental platforms that in turn will shape us.

Virtual Reality (VR) provides opportunities for users to experience environments that experientially defy evolutionary ingrained natural laws (e.g., gravity). Through avatars participants may morph and communicate in ways beyond current imagination. Jaron Lanier, the visionary genius who coined the term “Virtual Reality” in 1989 recently described VR as “a consciousness noticing machine” (Lanier, 2010). Twenty-five years of research evidence from around the
world appear to support this claim. Functional magnetic resonance imaging (fMRI) studies provide neural imaging by measuring changes in blood flow related to neural activity in the human brain. Recent fMRI studies indicate that unique physical changes such as the activation of associated brain systems actually occur while an individual is immersed in a virtual world (Pine et al., 2002). The physical, cognitive and affective changes that occur from exposure to virtual worlds are predicted to increase as we spend more time in them. As such, it is essential that we understand what these changes may be and how they may transform who we are.

Our concept of Self is the part of us that is the source of our reflective consciousness, the affective representation of our identity or essential being, the agent ultimately responsible for our actions and thoughts. Without a healthy concept of Self, our sense of identity can become fractured, which left unchecked may lead to psychopathology. Maintaining a healthy concept of Self becomes increasingly challenged as we move further into environments that at times defy normal forces of nature, and where myriads of cyber agents strive to identify and manipulate our needs and whims. To meet such challenges we must understand how the Self can successfully transform in such environments so that it maintains stability, integrity, health and sanity. A virtual world designed and populated by healthy individuals who have a balanced concept of Self and clear sense of identity will be very different from one designed and populated by pathological individuals with severely unbalanced concepts of Self and fractured identities. Symbiotically, how our concept of Self evolves will also affect the evolution and future of these worlds.

A 4-D SELF MODEL FOR A PRE-VIRTUAL WORLD

This article explores the transformation and evolution of Self in virtual worlds. We begin by understanding the concept of Self and identity. Next we see why understanding and developing the concept Self in virtual worlds is vitally important. Finally we discover how the concept of Self must adapt and evolve as we journey deeper into virtual worlds.

Many models were developed to describe the relationship of the Self to our world prior to the creation of virtual worlds. These models generally focus on one or some combination of four dimensions, as follows:

- **Si “Individual focused Self”**: This model focuses on the dimension of Self as a uniquely embodied individual, attentive to one’s body, body image and unique individual needs, such as personal hygiene, health maintenance, food preference, etc. When you find time for a long bath, the Si dimension is in command;
- **Sr “Relationship focused Self”**: This dimension of Self focuses on interpersonal one-on-one relationship identity with significant others, such as between partners, lovers, or children. Ego and developmental psychologists focus greatly on relationships with significant family members and development of the Self. Although an individual may have several Sr relationships at any time, those Sr relationships will be experienced as a hierarchy during any moment of Self reflection. Individuals may possibly experience Sr with a nonhuman, such as a pet, which becomes increasingly relevant regarding virtual worlds populated with artificial intelligence (AI) and other nonhuman entities;
- **Sg “Group focused Self”**: This dimension focuses on the identification of Self with any group (e.g., gender, race, nationality, profession, community) or combination of groups. Models focused on Sg include those developed by many social and group psychologists, sociologists, political scientists and economists. In extreme conditions, all other dimensions (Si, Sr and Sn) may be sacrificed for Sg identification alone, as in the case of suicide bombers;
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