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Virtual Identity: How Virtual Worlds Affect Identity

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The purpose of this paper is to take the reader on a journey of my own search for identity in a virtual space: my appearance, behaviors, community affiliations, and the need to have more than one avatar (a user's three-dimensional digital representation) to identify with. The questions I hope to answer as part of this effort are: (a) What are the values, social conventions and moral compasses behind some of the choices we make as we construct identities in a virtual life? (b) How are these values tested when one creates an identity with complete anonymity? (c) How do the communities a member chooses to associate with help to establish an avatar's identity and does this association affect the real life of the user? The first part of this paper will examine identity theory and how identity is formed, how community affiliations and activities impact our identity, and what happens to our identity (even if we remain anonymous) once we enter virtual spaces. This conversation will give way to an introduction of Cultural Historical Activity Theory (CHAT) and a conceptual framework for analyzing identity theory and activity, particularly in virtual environments. Finally, implications for future research about how identity formation, visualization in virtual spaces, and our sense of self can impact our real-life identities will be discussed.

When asked to share something about selves, what do most of us say? Would we talk about our hobbies, our accomplishments, or even our nationality as the aspect of our lives that we most associated with? Would our description of ourselves change depending on the community in which we participated, or as events in our lives changed, even within the same communities? Can we have more than one identity with each identity cultivating its own activities, personality, and culture? Is identity dynamic?

Recently I observed how the dynamics of activity affected identity on a recent visit to New York City. My daughter had moved there a couple of years before, with no job, no place to live and eventually found housing where one of the roommates was a bike messenger – those people who deliver packages and papers all over the Manhattan area via pedal bikes that are specifically designed to be lightweight and maneuverable. My daughter was able to find a job as a phone operator for a bike messenger service, and as a result, two years later she identifies herself as a member of the bike messenger community.

During my recent visit I spent many hours observing this group, who identified as participants of this messenger community and affiliated with its “rules” without any formal membership structure. They seemed transient and non-conformist by nature, were highly intelligent about business and politics in New York City (*... we can tell the economy is bad because we are the ones who deliver deals, and we aren't delivering ...*), and had a network of bartering that enabled them to live on an income well below other New Yorkers. The cultural tools of their community can identify bike messengers: a bike, a large messenger bag, a smaller personal pouch, and a high tech cell phone. They can also be identified by their activities: covert races called “alley-cats” organized by word of mouth in order to stay one step ahead of police. These races have a defined route through New York City, often at rush hour, and involve many check points that need to be documented on a manifest as the biker weaves through traffic at breakneck speed.

As I reflected on this visit during the flight home, I realized that the *culture* of this community was not unlike the *culture* that I had experienced in my almost two years as a member of a virtual world. Whether it is something as simple as a virtual chat room or as elaborate as a Massive Multiplayer Online Roleplay Game (MMORPG), the desire to identify

with others who share similar interests now has no geographic boundaries. Technology enables us to create computer-based alternative selves, known as avatars, in order to be able to carry out many of the social activities that once required physical participation in a single geographic space.

How Action and Reaction Affects Identity in Virtual Worlds

In this section of the paper I will define the concepts of identity and activity, which serve as the conceptual framework for this exploration of how participation in activities where the user has an active interest affects identity in a virtual world. Identity development is primal factor in our human experience. Activity is where we either accept or decline our role within a community, developing our identity in the process. This acceptance or denial is based on our own cognition, our perceptions of self, and our identity within the community.

The Role of Identity

Identity is a means through which people care about and care for what is going on around them (Holland, Lachicotte, Skinner & Cain, 1998). For the purposes of this paper, identity theory is separated into two aspects: Self-identity and Social identity. Self-identity is how we perceive ourselves and social identity is how we see ourselves in the presence of others.

According to Mead, Identity has its beginnings in biology; there are movements, gestures and responses that we attach meaning to as we repeat them. As we attach meaning to our actions, it forms the foundation of our identity (Mead, 1934, Burke 2006). When we self-identify, we organize these developing personality traits and behavioral tendencies that originate from either genetic features (traits) or as a result of the learning process (roles). This learning process and the development of identity roles are a result of the interplay between our actions and the actions of others, and they either confirm or refute our self-identity. Our experiences are further filtered

through social constructs such as family dynamics, culture, and shared interests, creating a sense of self that is based on personal choices and responses over time, as well as the positive or negative feedback we receive from those we deem as important (Stets, 2005). Identity is a self-cognition based on the acceptance of a role that is either self-determined, assigned by others, or more often a combination of both. These accepted roles determine behavior across a variety of situations (Stryker, 2007).

Vygotsky looked at how social constructs impact behavior. These gesture-response interplays are seen as an external pressure inducing the individual to behave in a certain way. If an individual perceives that the community he identifies with supports him, he is more likely to have a greater affiliation because it benefits him. While Vygotsky (1978) centered on the actions of children who could reason and attach meaning as they developed and became independent in their actions, it was apparent to both Mead and Vygotsky that identity was dynamic and was persistently in a process of amendment in response to the actions-reactions of others. In both cases, identity is stronger when group affiliation is necessary or desirable to achieve a particular goal. Accountability to a community is also directly related to perceived benefit. These aspects of affiliation level, accountability and goals are particularly influential on behavior in anonymous settings, where behavior is viewed as more diagnostic of inner tendencies and can result in experimental behaviors (Smith, Terry & Hogg, 2007). Theoretically, if someone forms a deviant identity in an anonymous setting, it stands to reason that the identity (self-cognition) was already established but there was no suitable social construct to attach to it in order for a role to be established. How does this directly relate to identity in virtual spaces? Research work in social dynamics, particularly that of activist movements (Stryker, Owens & White, 2000), presents the “perfect storm” for group activity and identity in virtual worlds: First, those in virtual worlds are

already considered “activist” – they are on the fringe of societal norms. Second, inside the walls of a virtual world, it is possible to find others who share just about any interest imaginable – no matter how unacceptable the viewpoint might be in mainstream society. These virtual world associations reinforce identity.

The Role of Activity

Identity theory suggests our sense of self and social purpose is a dynamic process enhanced by our participation in activities with others. It is this participation in community activity and the environment that activity occurs in, along with the tools and tasks associated with the activity, that cause our own cognition and self perception to develop and transition over time. The following sections detail the role activity, or participation in the shared actions within a community, plays in virtual worlds.

Birth, identify, and activity in a virtual space. As someone who worked as a curriculum designer for the online division of a university, I was used to working with interactive material on the Internet. When a colleague mentioned Second Life and its use in education, I was hesitant to take the time to learn yet another platform just to examine how effective it might be for our purposes. Rational by nature, the idea of dressing like a fairy with wizards and dragons just didn't appeal to my common sense. My colleague assured me that Second Life was different. It was a role-play game designed by the residents, didn't have a medieval theme unless the inhabitants chose to make it that way, and I didn't have to become a wizard or reptile to participate. Unlike other virtual games where there is a clear objective, path to advanced standing and award attainment, Second Life is a world created by members. As such, it reflects the collective culture and value system of its inhabitants – good or bad. Boasting millions of members (with 50 to 70 thousand logged in at any one time), Second Life has become a model of

social networking, allowing any number of activities (including education) to be conducted within its boundaries.

After weeks of nagging by my colleague, I finally decided to try Second Life over a three-day weekend. Just as described in Anderson (2004), I was completely immersed in this new environment. To say I didn't sleep or eat for three days is an understatement. The learning curve was short (as someone who was already technically savvy) and two years later, I am not only an experienced user, but also an entrepreneur and something of a subject-matter expert in Second Life usage. Virtual environments act as a creative space for any imaginable activity. Not only can people "interact" via their avatars, currency is exchanged via a free-market system that enables business models to be tested for a fraction of their real life cost. Given the microcosm of society that virtual worlds provide, it is an ideal space for studying behaviors as well as business (Castronova, 2005).

The nature of virtual worlds. When we mention the term "virtual world," we can be describing any group action that occurs over the Internet. This can be anything from an anonymous special interest chat room to a three-dimensional virtual environment where a university uses the space for student interaction. Entry into a virtual space only requires a common interest and the ability to navigate the tools necessary to be able to contribute to the activity (Adler & Adler, 2008). There is a base understanding of technology that is a requirement to entry, which enables members to have a common foundation of interest from the beginning of their participation. This enables members to view the environment through a similar lens, no matter what other interests they might share. In text-only environments such as chat rooms,

identity is created through shared real-life experiences, as opposed to communal experiences within the environment.

Why do people enter virtual worlds? As mentioned earlier, they are joining a community of like-minded individuals, identifying themselves as cyber-activists. Regardless of why people enter these environments, the ability to mold an alter-identity of one's choosing into a salient identity with real life is an attraction for those willing to enter a new world (Stryker, 2000). In his book, Edward Castronova (2005) refers to the work of virtual world pioneer Richard Bartle, in identifying the motivations of virtual world users:

- Explorers – People who are curious and see the space as an empty canvas, ready to be unlocked through persistence and creativity.
- Socializers– Looking for a social structure with shared activities and experiences. They come to be with others.
- Achievers– Want the ability to increase the power of their avatar and attain social respect.
- Controllers – Want to intervene in and dominate the lives of others.

A tale of two avatars. As a leader, I am an achiever but my foray into Second Life was in the role of an explorer. In order to enter Second Life, one must first choose a name and the basic appearance for an avatar (that member's three-dimensional digital representation). With a drop down list of surnames to choose from, the goal is to be able to find a first name-last name combination that creates the identity someone wants to be associated with long-term. Once an avatar is created, there is a "birth date" associated with the avatar and unless the account is cancelled, the name and the date are etched in stone. Since my goal was to go in and explore the

environment, I chose a name combination that reflected how I wanted to be seen in this new world: Flameheart Sol.

Flameheart was assigned (by me) a “girl next door” avatar body. Having grown up on the East Coast in an Italian family with more than enough pasta on the dinner table, I had never come close to having a “girl next door” body. Flameheart became the embodiment of everything I wasn’t in the physical world (my own measure of self-identity): She was tall, with green eyes and auburn hair. And she had a body to die for...I could buy clothes for her that I never could have worn in real life and when she worked a room at the virtual dance club, she had the attention of several men who sent instant messages to dance with her. I was in Heaven... until my colleague gently reminded me that Flameheart did not look like an educator. She suggested that I might want to tone Flame down a bit in order to be better accepted in the educational community (the reason I was in Second Life to begin with). At the same time, Flame was finding a social identity in activities that had little to do with education, forming an attachment to the activities that were defining her as something other than an educator, such as involvement in live music promotion and building a boutique shopping mall. The only solution was to create another avatar.

As luck would have it, when I went to create a second avatar my real life last name was one of the choices available. Since I have a unique spelling for my first name, I was actually able to create an avatar with my real-life name (which negates the idea of being anonymous in a virtual space). This new avatar, Debe Wise, would be designated the account I hoped to log in with if I was going to engage in educational activities. I chose the same avatar body as I did for Flameheart, with more subdued features and wider hips. I also chose clothes that were more

educator-acceptable. Standing next to each other, the two avatars looked related but clearly had different identities, both individually and socially (see figure 1).



Figure 1. Flameheart Sol and Debe Wise

We are who we associate with. Debe was an educator; she attended the meetings that educators should attend to understand virtual world learning. She joined the communities an educator would be expected to join: The New Media Consortium, Real Life Education in Second Life, and other groups embracing constructivist learning in cyberspace (Beldarrain, 2006). Debe rarely logs in except to attend conferences and education meetings as an eager group participant, as opposed to a competitive researcher (Barreto & Ellemers, 2002). She hasn't been caught

dancing at the clubs, doesn't belong to any groups with questionable charters (rules defining the interest, behaviors, and purpose of the group) and doesn't own anything that Sports Illustrated would consider a swimsuit. She was created to be the "real" me but in actuality, she isn't really me at all.

At the other extreme, Flameheart is a rock star. As the representation of someone who could remain completely anonymous, Flameheart was free to experiment with her identity. She was able to experiment socially, sexually and with her appearance in ways that Debe never could (Stryker, 2007). Just as Debe became firmly ensconced in the academic community, Flameheart became a prominent member of the live music community, ultimately owning enough land to build a successful virtual business as a live music promotions company called the House of Flames. Her affiliations included other musicians' communities, live performance groups and some crossover into education.

Over time it became clear that while Debe and Flameheart were both initially created by the same individual with a singular value system, moral compass and set of social conventions, each of these avatars was developing a distinct "identity" based on the interactions in the communities they chose to affiliate with. In essence, they were the focus of their own activity worlds or systems, leading to a discussion of Cultural Historical Activity Theory.

Using CHAT as an Analytic Framework for Exploring Identity Formation

Cultural Historical Activity Theory has its roots in Russian psychological research, particularly the work of Vygotsky in the 1920's and 1930's. Vygotsky and his colleagues Luria and Leont'ev were proponents of the idea that humans didn't react directly with their environment. Rather, there was a three-part relationship where humans interacted with their environment through mediating artifacts or tools, such as language (Vygotsky, 1978). Through

the continued work of Luria, Leont'ev and later Cole and Engeström, the activity model developed into more of a collective activity system based on three levels of motive, goals, and the conditions and tools at hand (Engeström, 2000). The theory proposes that it is through activity that identity (whether real or virtual) is developed and constantly amended, depending on the tools, the community and the responses of others during the activity (feedback). This has a significant application in a virtual community, where everything is activity-based as a social network. In a virtual world, it is almost impossible to exist in a vacuum – interaction with others is a primary reason someone enters the environment. It is this very interaction with others within a group, how those participants respond to our contributions and how we are able to use those responses to move toward an outcome, that influences our identity and continuing membership in the community.

In this section of the paper, I will use CHAT to explore how both Debe and Flameheart's identities are enhanced and reinforced by their communities and the role those communities play in the objectives and goal attainment of each.

Analytic Framework

Using Engestrom's model of activity, each of the subjects – Debe the Ph.D. student, Debe the Second Life researcher and Flameheart the Second Life promoter have their own activity systems of identity formation (see figure 2). They are interrelated in that they all share aspects of a common identity (the primary identity at any one time can change depending on the activity). Each subject has it's own object, with an intended outcome. Each system can function independently of the others yet there have been times they have converged, when both avatars have been logged in at the same time (using multiple computers), with movements and

conversations of both avatars happening simultaneously with people who didn't realize they were really the same person.

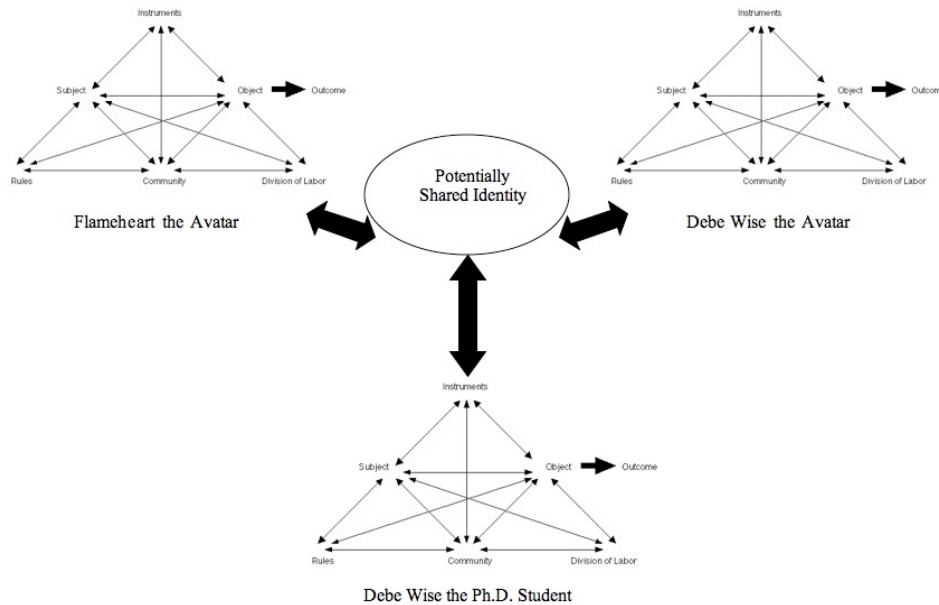


Figure 2. Shared Identity using Interrelated Activity Systems

In each activity system, there is a *subject* – the individual or sub-group whose agency is chosen as the point of view. Debe the Ph.D. student, Debe the avatar and Flameheart are all subjects. The *object* refers to the problem space each subject must direct their activity toward on the way to an *outcome* – the goal of the activity. For example, Debe the Ph.D. student has an object (problem space) to complete her Ph.D. program before she turns 100 years of age, in an effort to have an outcome as a subject matter expert in virtual world identity, leading to employment so she can pay back her student loans.

The activity system is also bound by the conditions and tools (artifacts) at hand – the mediators. Engeström's model calls these conditions rules, community and division of labor. In the case of Debe the Ph.D. student, the rules she has to adhere to are the program requirements

for her course of study, portfolio evaluations, meeting course requirements and ultimately her dissertation defense. Her communities are (in part) the faculty in the program she is part of, fellow students, colleagues, speakers, and research authors. The division of labor defines the tasks and decision-making abilities of not only Debe but of others who are involved in the activity as she moves toward her outcome. These can be interactions with her advisor, the financial aid department, and her committee as she completes her annual reviews, comprehensive exams and ultimately her dissertation defense. Finally, there are instruments of the activity system: publications, presentations, literature, and even the dissertation itself.

Analysis of Virtual Identity Using CHAT

While it might be easy to understand the activity system of Debe the Ph.D. student, understanding the activity systems of two virtual subjects, Debe the Educator/Avatar and Flameheart the Promoter/Avatar might be more abstract, as they are virtual...or are they?

Identity As An Outcome of Activity

The very act of joining a group begins the process of identity formation. When an avatar joins a group, there is a group tag assigned to each group role and as soon as an avatar joins a group the appropriate tag appears above the avatar's head. The text on the tag is established by the group creator but can be anything from the name of the group to another descriptive term. For example, Debe started a group for University of Colorado Ph.D. students and identifies herself with "UColorado Ph.D. 2B" above her head as a group association tag. Unless an avatar changes their active group (which will change the tag), the tag will remain above their head as a banner of group identity.

Both Debe the avatar and Flameheart have an object: participation in the virtual world communities where they have formed and affiliation. They each have a distinct outcome – Debe

wants to be a respected virtual world researcher and subject matter expert in virtual world identity formation and Flameheart wants to be a prominent virtual worlds events promoter with cross-over into real-life internet streaming. These identities were formed by how each subject viewed herself as well as the roles that were given to them by the communities they affiliated with.

Community Influence on Identity

As a member of a particular group, one has access to other members who might be more experienced not only in that group but also the virtual environment in general. With a similar community interest established, it is often easy to find others who are influential to newer members of the group, prompting interactions that enable newcomers to become old-timers in a short span of time (Cole, XXXX). These “mentors” can often help in guiding behavior, group tools, and other aids for identity creation. The research of Barreto & Ellemers (2002) has shown that people who highly identify with group membership are more motivated to favor their group and adhere to group norms, whatever the norm is for that group.

My colleague at the university acted as a mentor during Flameheart’s early days in the virtual world. This professor had been participating in Second Life for six months when I joined and had accumulated the knowledge I needed in order to know where to find clothes, replacement skin (that looked more realistic than the default “girl next door” look) and also where to go to attend lessons on how to build, make jewelry and live a productive virtual life. My colleague also had a mastery of the “language” of virtual worlds: Acronyms such as LOL (laughing out loud), ROTFL (rolling on the floor laughing), how the use of upper case letters intimates yelling, etc. These text “tools” enable emotions to be communicated according to the norms of the group and give the impression the user is a mature member of the community

(Roth, 2007). My apprenticeship with my mentor greatly influenced my choices and caused Flameheart to make many of the same choices she had made with her avatar (Rogoff, 1995). In a virtual world where all players can remain anonymous, this establishment of trust was based on a more personal shared situational interest. Flameheart, in turn, was the mentor for Debe the avatar, where many of Debe's choices in her desire to create an identity were based on the choices Flameheart had made.

How Tools Influence Virtual World Identity

What separates a virtual world such as Second Life from a text-based chat room is the ability to see and experience tools in three dimensions (discussed more in detail later). Debe the Second Life educator can attend any number of conferences on any number of virtual campuses by one click of a teleport button. In a pedagogical sense, Dickey (2003) considers the ability to teleport an “affordance;” a method by which a learning is delivered. In the world of activity theory, these affordances are considered tools – aspects of the material world that are taken up into human action as modes of coordinating with the environment (Cole, 1995). The costs of attendance are no more than the expense of membership and an Internet connection. Flameheart is able to test her business model for a fraction of the cost of a real-world business because her land, her venues, media screens and everything else she needs to conduct a virtual life are just that – virtual. If Flame doesn't like the way a wall in a venue looks, she can change the color, texture, or even delete the wall entirely and start over because the ability to create, change, duplicate and delete is an affordance (tool) of the virtual environment (Dickey, 2005). According to Nardi (1995), these tools are mediators of the activity that enable Flameheart (the subject) to participate in a virtual live music community (the object) with the intention of becoming a virtual world events promoter (the outcome). The House of Flames has become something of a virtual

world start-up because it is a legal entity in the real world while conducting all its business in the virtual world.

Division of Labor

Even in a virtual world, there is a division of labor as part of the activity system. Debe not only participates in educational conferences, she interacts with colleagues in Second Life and has acted as an assistant in the projects of other researchers. Debe has also been an instructor in a virtual environment. Flameheart, on the other hand, has collaborated extensively with performing musicians, builders and designers and has acted as the project manager for not only the House of Flames, but also the creation of an accredited university campus in Second Life.

Rules

Both Debe and Flameheart have affiliations with communities they identify with. In these communities, there is a group charter that describes the rules of behavior for participation in that group. Second Life also has rules for membership, such as a code of conduct to respect the property and rights of others and to respect another's right to remain anonymous. Debe also has to agree to research guidelines for human subjects in virtual spaces and Flameheart chooses to run her business by the same code of ethics she holds for her real-life transactions. Because they both highly affiliate with their respective communities, they have adhered to group norms and have accepted the roles the groups have given them.

Any community can exist in Second Life with as little as two members and the group charter is at the discretion of the creator. For example, Demons Incarnate has a charter that says, "This is a group for demons, devils and other demonic creatures. You can role-play if you want, do anything really as long as it doesn't break any of the rules of Second Life. (This group is not

part of the Church of Satan even though its founder is).” If this group seems outside the norm for most people, it has well over two hundred members who have chosen to identify with it.

Visualization and a Sense of Self

As much as identity seems to be tied to environment and the roles external influences cause us to accept or decline, the “self” appears to be tied to a very private, internal consciousness where the awareness of processes and impulses deep within us create a personal perception relative to our active interests. How we see ourselves depends on our cognition of the pleasurable and painful, imagery and imagination, and the activities of the individual (Mead, 1925).

Self vs. Identity: Which comes first?

Identity creation in a virtual world is a psychological process encompassing three aspects: Tools, activity, and associations. Each of these has some basis in my own real-life experiences and has been either reinforced or contradicted by my virtual world experiences (Cole, 1995). As described earlier, my avatars’ appearances were chosen based on what I envisioned as perfection, given the tools available to me. Interestingly enough, there are very few avatars of color in Second Life and very few people who deliberately create their avatars as overweight, handicapped or otherwise challenged. In the cases of my avatars, Debe looks more like me externally but Flameheart is the embodiment of who I am internally. Both Flameheart and Debe have objectives to become notable in the circles in which they dwell. Debe initiates actions to participate (and be accepted) as part of the education community.

Flameheart however, can travel anonymously and while she has my own moral compass as a foundation for her actions, her experimentation with social activities in Second Life has been more risky than Debe’s. As someone who was raised in an Italian Catholic household, there is

only so far my own moral compass will allow Flameheart to stray but I have been able to bend some of my established social conventions in order to cultivate more accurate and enlightened opinions about the world around me in real life. I find that as a result of Flameheart's activities, I am less judgmental about the activities of others and more accepting of those whose personal moral compasses differ significantly from mine.

Is It Real or Is It Virtual?

Each activity system is a “virtual disturbance and innovation-producing machine” due to the contradictions that occur as influences from each identity work against the others. This creates a dynamic environment where activity and identity are often fluid, an intersection of individual, environment and activity over time, depending on which identity is the primary actor (Barab, Hay, & Yamagata-Lynch, 2001). On a concert night, there is no Debe the Ph.D. student or Debe the Second Life researcher. It is Flameheart who is sitting at my home media studio directing the actions of security (US-based), the master of ceremonies (Australia), and the musicians (any number of countries). Flameheart has a global identity, which recently contradicted with real life. One Second Life musician who plays a guitar as the avatar Andy Glasgow is a German who works for Audi in real-life. Andy (both his Second Life and real life name) travels to the Denver area on occasion as part of a team that tests car endurance under different conditions (there are test centers all over the world). Andy has performed at the House of Flames for Flameheart but here was the real-life Andy coming to Denver and was interested in meeting the real life Debe. Flameheart and Andy the guitar player had an established relationship in Second Life but Andy the Audi electrician and Debe the Ph.D. student had no such association.

Thankfully, the meeting was just as expected. Each of us had portrayed ourselves in the virtual space as an accurate representation of our real-life selves and we had a wonderful visit, attending two live music events while Andy was here. In a world where true personalities can be masked under the cloak of anonymity such is not always the case. In their research, Adler & Adler (2008) describe examples of misrepresentation and even robbery in real-life meetings between self-injuring (people with poor coping skills who react to life stresses by harming themselves) participants from virtual chat rooms. Real life Debe, Second Life Debe and Flameheart have resolved the contradictions of social conventions and moral choices after two years in a shared activity system, to the point where most of the people who work with Flameheart in Second Life know my real-life identity.

Initially, it was Debe the Ph.D. student who exercised influence on the two Second Life avatars. Over time however, the activities of Flameheart have influenced the activities over the other two subjects. Debe in Second Life is a more confident educator, both because Flameheart was in the virtual world first and made most of the mistakes (like losing her clothes in public by clicking the wrong button), and because Flameheart's more liberal viewpoint was more accepting of those who were different than Debe's (Flameheart had to deal with musicians who chose to perform as vampires and space aliens). Flameheart also influenced my real-life personality. The ability to remove what I saw as a physical barrier enabled Flameheart to be the embodiment of my own personality, experimenting anonymously with the conservative social compass I was raised with. In some sense, this process has been similar to the resolution of a complex problem, where the solution had social, cultural and intellectual value for me (Jonassen, 2000). The result was a more enlightened world-view, which I have now adopted in real-life as a result (O'Toole, 1993). I have also changed physically in real life in response to the new

confidence I have found as Flameheart. My hair color is closer to Flame's, my manner of dress is more similar and I have lost 35 pounds since becoming Flameheart. People who know about Flameheart call me Flame in real life; my license plates even say FLMEHRT. The identities that once were so separated by values and convention have now moved toward one salient, collective identity shared by all (Stryker, 2000).

What has made this interrelated activity and shared identity possible is the ability to *visualize* myself as each of the subjects. My ability to participate in activities in social networks, interact with the tools that are afforded by a virtual world, and conduct myself as an individual in three dimensions is what separates the transformational experience I have had from someone who participates in a text-based chat room (Cole, 1995). Being able to visualize myself as a thinner, more assertive Flameheart has impacted my life personally by changing my own internal perceptions, and professionally by creating an area of interest and acceptance within communities that share that interest. Reflectively, my sense of self has changed and if it is able to change for me, then this situated activity might be consistent and repeatable and able to make positive changes in others (Nardi, 1996). As the work of Jonassen (2000) might suggest the cognitive processes that are at work in a 3D virtual world could be effective in solving complex social issues. Avatar-based Internet browsing is in its infancy; in three to five years we will launch our web browser and our avatar will be waiting for us. How we will change our self perspectives as a result of a "dual-identity" is an important area for future study.

Discussion and Conclusion

This paper examined identity formation using Cultural Historical Activity Theory to analyze how identity is mediated through the participation of activities within a community, as the subject works toward a particular goal (outcome). The first part of this paper looked at

identity, both self and social, and how our participation in group activities is a dynamic method for feedback. We can accept or reject our roles within this community depending on how consistent this feedback is with our own perception. In the case of virtual worlds, group feedback can be based on factors that we are not able to explore in other environments, due to the ability to remain anonymous if we choose.

This paper looked specifically at the identity formation of three individual subjects, two who have been created entirely in a virtual space by the same real-life person. Each of the three subjects was viewed as the view-point perspective of their own activity system, with the communities, rules, tools and outcomes that motivated each. These interrelated systems created a common, shared identity that was greatly influenced by the values, social conventions and moral compass of a common creator. As a result, each subject has developed an identity that can function independently of the others and the dominant identity at any one time depends on the activity.

An essential element of identity and activity includes the subject's sense of self – the cognition of those things that privately motivate us, based on our internal processes, beliefs and imagery in how we see ourselves as part of a greater universe. In my own journey, what has made this interrelated activity and shared identity possible is the ability to visualize myself as each of the subjects. My ability to participate in activities in social networks, interact with the tools that are afforded by a virtual world, and conduct myself as an individual in three dimensions is what separates the transformational experience I have had from someone who participates in a text-based chat room (Cole, 1995). Being able to visualize myself as a thinner, more assertive Flameheart has impacted my life personally by changing my own internal perceptions, and

professionally by creating an area of interest and acceptance within communities that share that interest. Reflectively, my sense of self has changed and if it is able to change for me, then this situated activity might be consistent and repeatable and able to make positive changes in others (Nardi, 1996). As the work of Jonassen (2000) might suggest the cognitive processes that are at work in a 3D virtual world could be effective in solving complex social issues. It is entirely possible that in three to five years we will launch our web browser and our avatar will be waiting for us. How we will change our self-perspectives as a result of a “dual-identity” is an important area for future study.

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