As Long as They Don't Know Where I Live: Information Disclosure Strategies for Managing Identity in Second Life

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Anonymity is a central explanation for the effects and characteristics of communication and relationship formation over the Internet (Anonymous, 1998; Bargh et al., 2002; Jessup et al., 1990; Postmes et al., 2001; Rains, 2007). Disinhibition can result from anonymity under some circumstances because people feel protected from sanctions against expressing ideas and behaviours that violate social norms (Bargh et al., 2002). Some of the negative effects of anonymity that have been examined include flaming (e.g.,Vrooman, 2002), and social loafing (e.g., Jessup et al., 1990) and deception (e.g., Caspi & Gorsky, 2006; Hancock, 2007). The disinhibition that arises from anonymous Internet communication also can lead to greater intimacy and the formation of close personal relationships (e.g., McKenna et al., 2002). The question of what exactly is meant by anonymity has been of interest for some time within the computer mediated communication literature (e.g., Anonymous, 1998; Rains, 2007; Tanis & Postmes, 2007; Valacich et al., 1992), and as argued more recently by Kennedy (2006), developments in both technology and scholarship on technology call for reconceptualisation of the meanings of identity and anonymity.

The advent of the virtual environment through which users navigate with a constructed identity -- the avatar-- presents unique glimpses into the formation, communication and management of identity, and of the protection of knowledge about that identity from other people. This is our central interest in the current chapter. Drawing from interviews we conducted with Second Life users, we examine how people conceive of anonymity and identity in this environment, how they perceive the boundary between their virtual and "real" world identities and their boundary management strategies.

We use here the term *material* rather than "real" world and "real" life to reflect a key learning from our data (and from others such as Turkle, 1995) that the virtual world is indeed a part of reality for many users.[1] The material is the world or the life in which the individual's physical body resides; where the hands manipulate computer keyboard and mouse in order to manipulate the virtual environment through the virtual world avatar. At the same time, we do not take the explicit position that the virtual environment is "equal

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[1] The terms "real", "real life", "rl" will nevertheless appear in the direct quotations from respondents.

to" or "just as important" as the material environment. Rather, we examine the differences between our respondents in their approaches to the equivalency between these two environments, and we seek explanations that may account for these differences.

Anonymity Definition

We define anonymity as the separation of pieces of information about one's identity across social domains such that others are unable to identify that the pieces connect within a single, specific individual. This definition applies both in face-to-face settings and on the Internet. That friendly clerk we chat with at the grocery store, though we may know her name is Olga, is relatively anonymous until we gradually learn that she is a student, and maybe we see that she lives in the apartment building near our home, and then one of our friends mentions an "Olga" who is in his chamber orchestra, etc. Eventually we come to know who Olga is and we feel she is no longer anonymous, though we may not know anything very intimate about her. Our interactions with Olga are still only in the grocery store, but we now have expectations of other specific domains where

interactions with her might occur and we could even bring about some of those interactions if we chose. It might possibly have been less likely that we would have made all these discoveries about Olga's identity if she had never talked to us in the first place. The discoveries we made about her identity were nevertheless largely outside of Olga's control.

In Second Life we meet an avatar named Graham Penny-weather, and eventually learn that he is an artist, is a divorced father of three, and lives in Melbourne, Australia. Within a very short time of meeting Graham (days or perhaps even hours), we may also learn intimate details of what went wrong in his marriage. All of this information is under Graham's control to share or not share with us. At the same time, we may not know that in his material world Graham is quite a famous artist who is the winner of that year's Archibald Prize. Though we may feel close to Graham and think that we know him well, he nevertheless is anonymous because of the separation between parts of his identity.

In the two examples above, anonymity and identifiability are interwoven within each other, and there is no absolute anonymity or

absolute identifiability. Keeping pieces of information undisclosed in different settings, intentionally or unintentionally, exemplifies the boundaries people may have between different aspects of their identities they present in different settings. Our focus on maintaining boundaries between Second Life and the material world boundaries fits with the perspective on privacy presented by Derlaga and Chaiken (1977; pg. 102), in which privacy is seen as the _{"process of boundary regulation"} wherein a person controls _{"how much (or how little) contact"} he or she maintains with others. We argue that privacy serves the purpose of controlling anonymity in that people control the information that others have as well as the amount of contact.

Our definition is also guided by assumptions drawn from social identity theory (Brewer, 1991; Tajfel, 1982; Tajfel & Turner, 1979; Postmes et al., 2001), that people derive their identities in part from the social groups to which they belong. These groups contribute both to the construction of self-identity and to perceptions of identity from the perspective of external observers. The unique relationship among an individual's various group memberships – their relative salience and importance for example – provides important

cues to identity. The level of someone's anonymity is reduced the more other people learn the connections among that individual's social group memberships (e.g., <small>"You know who I mean -- Olga who works at the</small> <small>Stop-n-Go"</small>). Of interest in this chapter is how the virtual world context affects the relationship between social group membership cues and anonymity.

Second Life Interviews

To understand how people perceive their anonymity in virtual worlds and what strategies they use to maintain or eliminate boundaries between the material and the virtual worlds and their motivations for using these strategies, we conducted in-depth interviews in Second Life. Because we wanted interviewees to be open about the kinds of Second Life identities they construct and how they manage their Second Life material world boundaries, we held the interviews in Second Life, where the researcher's avatar met with the interviewee's avatar and carried out the interview via text. In this section we describe our interviewees, the procedures we followed to

recruit and interview them, and some ethical issues we encountered and how we addressed them.

Interviewees. In the spring of 2008 we interviewed 30 SL residents. Interview participants were recruited via a third-party SL market research company that specialises in Internet sampling and research.[2] This company made contact with potential participants, scheduled the interviews, gave us a conference room in SL to carry out the interviews in private, and paid participants in Linden Dollars (Second Life's currency) following the interview. Half of the inter- viewees' real life gender was female, the range of their Second Life age was 93 days (3 months) to 1410 days (3 years and 10 months) (median = 434 days, or 1 year and 2 months), and the range of their real life age was 21 to 68 years (median = 35). The age distribution of the sample is representative of the best possible data available on the demographics of Second Life users. The gender distribution in the general Second Life population is slightly more than fifty per- cent male, but because we wanted an even split we slightly over- sampled for women. All residents were US-based.

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[2] www.markettruths.com

Interview protocol and procedure. The researcher's avatar met the interviewee's avatar at the set time at the entrance to the conference room allocated for us by the recruiting company. We invited them to come in and sit at the conference table (See Figure 1), handed them a notecard[3] with the consent form, and after returning it to us signed electronically, we switched from communicating via chat, which can be seen by anyone nearby, to private instant messaging between the researcher and the interviewee.

The semi-structured interview included open-ended questions about how the interviewee sees the boundaries between their SL and RL identities, whether they have alternative avatars and how they are similar or different from the current avatar, how and why they protect or eliminate their RL identity by sharing or not sharing different kids of information, whether and how they share RL information in order to develop relationships with others in SL (and vice versa), and so on. To receive background information about interviewees and deepen our understanding of how their perceptions and behaviours regarding their identity information sharing are related to

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[3] A notecard in Second Life is an item containing text or other objects. Notecards are stored in one's inventory list.

their daily lives and activities, we asked them to describe how they spend their time in SL, how much time they dedicate to being in SL, and their RL job. Each question was followed with more probing questions to ensure we received a full depiction of the interviewee's point of view. Interviews lasted approximately 90 minutes.

The data included the text of the interview conversation, in addition to information we gathered from interviewees from their profiles. Information in these profiles is voluntarily added by SL residents and could include images, descriptions of themselves in for SL and RL, SL groups they belong to, Internet links, and so on. In the analysis presented below we disguised avatar names and other identifying information, but kept gender identification. Given a re-laxed norm in SL about typos in chat, we edited interview quotations to remove typos and other errors in order to clarify meanings.

Ethics. Our choice to carry out interviews in Second Life, with the researcher's avatar interviewing the participant's avatar and not real life contact, raised ethical issues we had to address (Nosek et al., 2002). While in in-person interviews the interviewer can ver-ify the interviewee's physical characteristics such as gender, we had

to rely on what the interviewee's avatar told us about their real life during the interview (Taylor, 1999). We had to believe Justine saying she is a female working as an administrative assistant in a hospital and Connor saying he is a retired male. This had consequences for our university's Institutional Review Board, a unit that ensures the compliance with ethical guidelines for protecting human participants in social, behavioural, and medical research, because special consideration should be given to participants who fall into special categories such as children and people with disabilities. We could not verify these categories and thus had to rely on the information participants gave the recruiting company before volunteering to participate. However, we believe that not meeting interviewees in person but only in SL did not have significant consequences on our data collection and findings. The reason for this is that the questions we asked were not concerned with finding who the real person behind the avatar is, but as interviewee's perspectives, attitudes, and beliefs about the boundaries between SL and RL.

Another issue was conducting the interview in a medium controlled by a third party company, Linden Labs, who owns Sec-

ond Life. Although the interviews were carried out via private instant messaging, and we anonymised all the data by changing interviewee's SL names into codes, a record of the interview transcript remains on the servers of Linden Labs. This was outside of our control and we made sure to notify participants about this prior to carrying out the interview.

Our preliminary review of the transcripts suggested two broad themes describing primary considerations in the management of information across the virtual and material world boundary. The firs theme was represented by words of one of our respondents, "the reason i play MMO games is mainly for communicating and meeting new people." We examined what participants told us about how they form personal relationships within Second Life, and make decisions about what kind of identity information to share through that process. Second, we found a theme related to self-expression and the management of reputation. Although considerations of reputation are important for relationship development, we found that our participants discussed a distinct set of issues related to this theme. Our analysis will be or-

ganised around these two themes, and we will end the chapter with recommendations for future inquiry.

Self-disclosure and Relationship Development

Self-disclosure reciprocity has been recognised since the pre-Internet era as the chief mechanism in the development of close personal relationships (Altman & Taylor, 1973; Derlega & Chaikin, 1977; Collins & Miller, 1994; Derlega et al., 1976; Rubin, 1975; Parks & Floyd, 1996; Thibaut & Kelly, 1959; Worthy et al., 1969). People reciprocate offers of personal information when they feel interpersonal trust and because of social norms (Rubin, 1975). Early research in face-to-face settings showed that people would readily follow reciprocity norms in matching the level of intimacy in disclosures with interaction partners (e.g., Worthy et al., 1969), and that the level of trust moderated the extent of reciprocity (e.g., Johnson & Noonan, 1972; Wheeless & Grotz, 1977).

Important for current research on the development of personal relationships over the Internet were early findings that intimacy and self-disclosure could develop more rapidly and reach

deeper levels among strangers than among close acquaintances. Derlega et al. (1976), for example, found that following reciprocity norms in a one-time encounter was more likely to occur between strangers than between friends. Rubin (1975) examined the "passing stranger" effect in which previously unacquainted individuals with no expectation of future encounters quickly reach deep levels of intimate and mutual self-disclosure. He suggested that people feel invulnerable in such encounters because they are unaccountable to a stranger. That is, they are free from concerns over maintaining this relationship in the future. But another reason for lower inhibition in disclosing personal information to strangers is that such disclosures also lack consequences for one's everyday and normal life. Because a passing stranger cannot easily find you again (and usually does not care to), your reputation, position within your social circles and your pre-existing friendships are not likely to be affected by the intimate information you have divulged.

Internet interactions share some features of the passing stranger phenomenon, while they also differ in important respects. The face-to-face encounter with a passing stranger is characterised

by a certain level of anonymity, wherein the stranger is unable to connect together vital pieces of one's identity. This factor makes the encounter inconsequential in any material way. Anonymity in Internet communication is similar. A great deal of theoretical work and empirical evidence have shown anonymity to be a key factor in the formation and maintenance of close personal relationships over the Internet (e.g., Bargh et al., 2002; Ben-Ze'ev, 2003; Christopherson, 2007; McKenna & Bargh, 1999; McKenna et al., 2002; and see Bargh & McKenna, 2004 for a review), and Bargh et al. have argued that Internet anonymity reduces the possible costs of revealing "negative or taboos aspects of oneself" (pg. 35) in one's life outside of the virtual Internet world.

Self-disclosure over the Internet departs from the passing stranger phenomenon in the important respect that on the Internet people often want the strangers to linger. Forming and maintaining personal relationships is the top reason for which people use communication affordances of the Internet (Bargh & McKenna, 2004), and virtual communities have been thriving since the advent of the internet infrastructure through discussion groups, chat rooms, role

playing games, and more (Preece, 2000; Rheingold, 1993; Smith & Kollock, 1999). The Internet provides people with the unique capability to separate aspects of their identities and to choose which aspects to present to whom (Turkle, 1995). At the same time, the ever increasing power and sophistication of Internet search engines provides the capability to re-connect the separate aspects of a person's identity, given the key bits of information (Frye & Dornisch, 2010). The challenge then is figuring out and then managing the desirable balance between self-disclosure and a certain degree of anonymity (Ben-Ze'ev, 2003; Christopherson, 2007; Joinson et al., 2010; Omarzu, 2000).

This challenge was the central focus of our interviews. We asked the respondents to tell us how they conceived of and managed the boundary between their activities, identities and lives in Second Life and their material world. Their responses to this central question could be thought of as falling along a continuum that ranged from keeping a strict separation through a blended approach to having no boundary at all. Despite the fact that people described their approaches in these terms, we nevertheless observed that everyone

maintained some kind of boundary by imposing limits on information about their material world they would reveal within the virtual world. The limits were characterised by choice of information to divulge, choice of to whom to divulge the information and the timing.

Harry, perhaps having the most permeable boundary of the people we interviewed, told us, "I can say at the outset that I am not trying to keep my first life private...SL is an extension of my RL work", but he also described a certain degree of caution in how quickly he discloses information to visitors to his Second Life business location:

> "One of the first questions I or one of my greeters asks a visitor is why they have come to EnviroCo… It becomes very clear if they are giving us an honest answer and we can respond to that… I don't wear a tag with my home phone number on it…If someone wants to learn about me they have to jump through a few hoops…"

In a similar vein, John is a musician whose Second Life profile displays a photograph of his material self with the caption, "That's the real me!" He explains, "I want to be real to people…I am a musician …and I mingle SL and RL…I'm John in rl…I don't have much to hide." John nevertheless "pays yahoo extra to protect my rl address… phone #, etc." John and Harry represent examples of people whose business interests are furthered by having fairly permeable boundaries between their material world and Second Life identities. Harry uses Second Life as a laboratory to test potential

customers' reactions to ideas for material world products. Due to the reputation he has made in Second Life, John is _{"making rl money"} and has _{"a growing fan base"} for his music in the material world.

Unlike John and Harry, for most of our respondents with these permeable boundaries, the primary reason for divulging material world identity information was to nurture Second Life relationships. Sharing bits of real life information signaled trustworthiness and invited reciprocation _{("they will know i'm a real person and not some poseur...and also they might tell me the truth"} -Cybyll), which in turn laid the groundwork for developing meaningful relationships: (Greg: _{"it is much easier to … form strong bonds with people when you're willing to open up a bit"}).

Despite the attitude of openness described by these individuals, the process of disclosing material world information was nevertheless described as a gradual one unfolding over time. Permeable as their boundaries may be, they still wanted to get to know people before letting them into their material world. _{"…i wont give any info that could be used to contact me directly like email address, phone number…unless i get to know you first,"} says Kevyn . It was also common for people with open boundaries to describe their approach as the same as in their material environments, as described by Robin: _{"as in real life...when you get to know some}

one...you choose to share information...it is the same here, on a case by case basis." Further, Harry's comment that he is willing to share his real life identification information with people "if they are being real with me", and Kira's statement that "I share what other people are willing to share," reflect expectations of reciprocity. These attitudes are consistent with some of the fundamental predictions derived from theories of self-disclosure literature. Reciprocity – both as signal of trust and as normative practice – was a main driving mechanism in bringing people closer together across both their virtual and material worlds (Altman & Taylor, 1973; Dietz-Uhler et al., 2005; Rubin, 1975; Worthy et al., 1969). In fact, although we asked participants about what information they *gave*, their responses frequently described an *exchange* of information.

A prominent theory on relationship development – social penetration theory (Altman & Taylor, 1973) characterises the self-disclosure process as gradual, orderly and linear. The process moves from the disclosure of relatively trivial surface information through deeper layers until the core information of a person's self-hood – vulnerabilities, fears, hopes -- is reached. Altman and Taylor

use the metaphor of a pin passing through the layers of an onion to describe this process. A different metaphor is needed to characterise self-disclosure in the development of relationships over the Internet. We find more useful the metaphor suggested by one of our respondents who explains that she does not give her last name because it "makes it easier for someone to pin point me and put the pieces of the puzzle together."

The metaphor of a jigsaw puzzle captures the ability on the Internet to separate segments of one's identity from each other -- the material from the virtual, the core from the periphery, and even one virtual from another. This metaphor is compatible with observations that the Internet fosters, or perhaps reflects, the existence of multiple selves simultaneously present across various domains (Bargh & McKenna, 2004; Turkle, 1995). The process of getting to know another person is very like piecing together bits of information in ways that yield a coherent picture, but where multiple solutions may be possible Even with full disclosure the picture is not static and can never be complete. The jigsaw puzzle metaphor also is consistent with the social identity theory perspective we discussed earlier (Brewer, 1991). Social group membership information can play a

pivotal role because of the additional identity cue information the memberships may carry.

The knowledge that people have of their acquaintances within Second Life can be compared to coherent and clear sections of a puzzle. Less clear may be the knowledge that it indeed is only a section of the person's whole identity, how big of a section it is, or how it fits into the whole. Some of our respondents' strategies for managing their boundaries reflected this ambiguity. Walt told us for example that although he was truthful about being male and "an adult in the United States," very little else about his Second Life persona or the registration information he provided to Linden Labs was "accurate" about his material world self. At the same time Walt says he is not "trying to hide" and that he has "no incongruity" between his Second Life and his material world identity.

The analogy of coherent parts of a whole applies to the phenomenon of how rapidly people can reach levels of deep intimacy in their Internet relationships. We can think of a holographic type of jigsaw puzzle wherein separate coherent segments contain the essential whole of a person's identity including emotions, passions,

dreams and fears. People are able to connect to each other through aspects of the essential core contained within the coherent segments of identity that they have agreed to share with each other. ("In Sl, even though I do not disclose my real identity, I do freely disclose my real feelings.") How the segments fit into the whole does not have to have a bearing on the virtual world relationship. Connor, who takes the stance that "its best to keep it separate", nevertheless reported that he shares "lots of information about who i am", which for him includes "passions, likes and dislikes." He describes further the emotional closeness of his relationship with his Second Life "fiancé." Although this relationship is contained only in Second Life, these two individuals seem to have a clear sense of coherence of their shared virtual world identities as well as the edges of those segments:

> "[she] has made me very happy in RL…i actually smile the whole time we are together…and it give me a reason to get up in the morning…lol…it is very close to a RL relationship as you can get here…we share everything…but alas she is married too…so…it never will progress further…which is fine"

To push the jigsaw metaphor further, there often is the one key piece that helps a lot of other pieces fall into place. This notion is reflected in the respondent's earlier reported statement about not revealing her last name. What that piece is may vary depending on

what other pieces are already known, but the key piece often is something quite close to the centre of the image. Similarly in the process of uncovering identity, some pieces of information are key to a person's identity through which many other pieces of information can be known or easily obtained. Leon described a kind of calculation of what weights to assign to certain information: "I try to consider things from the extreme view. If a person really wanted to "track me down" what clues would they use to do that. Where I go to school? Very unique experiences? Things I've done recently that gained public attention?" Even in the absence of a key piece, the sheer accumulation of information and the work it takes to see how it fits together will also aid in revealing the picture, as illustrated by Anna who describes her Second Life identity as "an extension of my RL identity", but is nevertheless quite strategic in her decisions about divulging information about her material world persona:

> "My RL name is fairly unique and can be Googled... so I don't give it out…of course not things like location other than generic city and state…and I am even careful who I tell about my job as again the work I do it can be looked up online… I have to know and trust the person enough to believe that A) our relationship will benefit from the sharing of the information through increased closeness, trust etc. and B) that they won't misuse it."

Physical location was one such key piece of information for many participants. This was information they said they explicitly would not provide, or were careful that any other information they shared did not allow someone in Second Life to discover their

physical location: "no address nope…where i live… give them my home address… no way," says Irene even though she says she does not keep her "rl and sl separate." For some respondents real names almost seemed secondary in themselves and were important only insofar as they could provide a way for undesired material world contact, as suggested by the following comment from Gerome: "It depends on how much information they find out. If they know my name, I see no consequences… A name alone I don't think is enough."

People who kept strict boundaries had very different attitudes about the role of material life information in their Second Life relationships. Some of them approached Second Life as a game, as described by Justine: "I see no reason to purposely interject my real self into a game." These respondents perceived that who they were in the virtual world was enough, and that "tidbits" of real life information were unimportant and even trivial. For the majority of them, however, their attitudes were dominated by concerns over physical safety and security, and they tended to see disclosure of material world identity as dangerous. The importance they placed on safety was reflected in part by their use of strong, vivid, and value-laden language and a focus on worst-case scenarios to describe their concerns. The importance

of safety for these respondents is represented in the grave concerns expressed by Angel:

 "… some people… would love to know where I live… I fear that they will try to ruin my personal real life. I am afraid of people coming to hurt me sometimes… For example this one person I was friends with that I became an enemy of he/she … went to this extreme of threatening to hurt me in RL… I don't know 100% what these people want to do. But I do know that they could be a harm to me…"

Even when said in jest, these respondents used extreme language when referring to possible safety risks: "Hopefully any who discover [RL identity] aren't crazy axe-murderers. :),"or, "just in case I meet a psychopath that is looking for his next 3 months of human to eat or something," and "oooo…murder…lol…" In contrast, respondents who reported that they had basically no boundary did express safety concerns but with language indicating a cautious but not overly concerned attitude, such as: "Mostly I worry about unstable individuals, small chance that it may be;" or "My only fear is that of a possible stalker... or a love interest that won't take no for an answer in rl", and "I guess there is always that chance of someone griefing4 me in rl, spam email, etc."

In keeping with their concerns over safety, some of the respondents with strict boundaries described elaborate precautions to ensure that the boundary would not be breached. Alyson explained that she has set up an email account in her avatar name, different

even from the email address she gave to Linden Labs for the initial

registration in Second Life. Note also her concerns over security

even within Second Life in the following description:

> "it [the email account] is from a large ISP so that it is not associated with the domain names I own in RL…And can't be tracked back unless you really are a good hacker...I even use it in scripts so that if someone in SL steals an object and gets into the script, that is the email found and not my real email."

Josh similarly employs multiple safeguards to keep the boundaries

separate:

> "My web-site…is private… if people try to look at who owns the domain name they won't see any of my rl info… In real life I have a thing called Earthclass Mail…where people send mail to another address…so they don't get my real address… I have a lot of privacy features enabled on my facebook page… So people can not see my REAL INFO unless I approve it… I have a "Virtual Assistant" …where I can block phone numbers from calling me … and does not leave a trail to my home address or mailing address."

Shari has "created an internet persona, not just for SL but for all internet related

activity," and she told us:

"I subscribe to SL through my internet persona. I have a paypal subsidiary account in my persona's name. I have a skype and cell phone in my persona's name…my persona is the interface between my RL identity and my SL identity."

Our respondents with more permeable boundaries rarely de-

scribed such involved, multi-faceted strategies. Rather they were

more likely to report simply that "i do not go out of my way to reveal anything in

my real life, besides the state and country i live in," or "I don't mind revealing any information

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[4] Boelstorff (2008) defines griefing as "participation in a virtal world with the intent of disrupting the experience of others" (pg. 185). Examples are using abusive or offensive language, filling up an area with useless objects, or sending flame messages to a group's chat space.

that isn't integral on preventing identity theft." Not that they were unconcerned about personal safety -- but their responses indicated a belief that it was largely under their control what information would be revealed, and that to keep their material world private within Second Life was merely of matter of not sharing what they didn't think was appropriate. For these individuals, exercising "reasonable precautions" was sufficient protection from undesirable and undesired incursions by Second Life acquaintances into their material world.

The emphasis these respondents placed on physical safety and security is one manifestation of the more general issue faced by all Second Life residents of getting what they want from their in-world relationships while also controlling the effects of those relationships on their material world. In her analysis of Internet anonymity Christopherson (2007) describes intimacy and control as "commodities" arranged in a balance such that increasing one depletes the other. The exchange of personal information facilitates the development of intimate personal relationship, but at the same time personal information gives one's relationship partners more control over the how, when and where of contact. The precautions

described by our respondents to maintain the boundary between the two worlds kept the control in their hands of whether other people would contact them.

Our respondents who described themselves at the extremes of the boundary continuum resolved the issue by essentially making it a non-issue. They either opened their material world such that there was not a separation between their Second Life and material world circles ("I am open about my RL identity") or they allowed no possibility of cross-over and kept all Second Life relationships contained strictly within that environment ("Best to keep it separate"). The majority of our respondents in fact placed themselves somewhere between these two extremes, and their responses show a dynamic sizing up of each social situation leading to decisions about what to disclose, when and to whom. Jerome's response is illustrative:

> "It really just depends on what feels right at the time. I have some rules on what I reveal, such as no addresses, phone numbers, etc. Things less sensitive, such as what college I go to really depends on the situation and the person; whether or not i feel I trust them"

Self-expression and Reputation

Social relationships form an important part of the context for the expression of identity (Banaji & Prentice, 1994). Alongside of

relationship development, our respondents also considered how the management of the between-worlds boundary expressed who they were. We saw fairly sharp departures in views of the virtual selves vis-á-vis the material world self between respondents with stances at the extremes of the continuum. Participants who reported no or very permeable boundaries overwhelmingly told us variations on statements such as, "I am my avatar... I don't pretend to be someone I'm not", and "I actually live my second life as I live my first life." These participants tended to characterise themselves as "open", and sometimes this norm of openness could be expressed more intensely as an aversion to being a different "self" in Second Life than in the material world, as suggested by Anna: "I personally find it difficult to role play a persona completely separate from my real life. When I tried (very briefly), I found that my real life identity slipped in anyway and it was less confusing to everyone for me to just be myself." Further, some responses reflected an assumption that engaging in some kind of taboo activities would be the main or only reason to keep identities separate, e.g., "Nothing in my life is overtly criminal or shameful, so why hide it?"

The people who reported keeping firm boundaries were more likely than those with loose boundaries to report that their virtual and materials world selves were different from each other, but the

differences tended not to be associated with any taboos. Rather, these individuals' responses tended to suggest that their avatars allowed them express of parts of themselves that were difficult to express in their material worlds.

We saw many variations of this idea expressed by the participants in our interviews, as exemplified by Josh, who told us that he sees "a big difference as me in sl versus RL… I am more open in second life than in RL, I have more friends here than in RL…It is more easy for me to be myself in second life then in real life." But what we found stroking in our data was that this sense of personal transformation was expressed by nearly all of the people who kept strict boundaries, whereas only rarely by those who kept looser boundaries. Eight individuals in our sample reported unequivocally that they preferred a strict boundary, and all except two of them gave examples such as, "I have learned new ways of communicating, have learned to be less shy and retiring, in general I enjoy RL a bit more since discovering SL," and, "now, my anti-oppression background is strong and I can break down sexism, classism and racism…SL has…challenged my stereotypes." Only seven of the remaining 22 people told such stories. Instead they were more likely to talk about peripheral, even trivial effects of SL on their material life such as "my house is dirtier and I don't watch as much tv."

The work by Bargh et al. (2002) and McKenna et al. (2002) on self-expression in Internet communication and relationship formation may offer insights into what may account for this pattern. They point to anonymity as a specific feature of Internet communication that facilitates the expression of the "true self", which they define as "those identity-important and phenomenally real aspects of self not often or easily expressed to others" (pg. 34). At the same time, they argue, the true-self is what a person most needs to express. The more difficult it may be for a person to express the true self in "one's usual social sphere" (pg. 35), the more that person may be drawn to anonymity in a virtual environment. The pattern in our data is consistent with this reasoning, and suggests a relationship between anonymity and the expression of the true self. Our participants who sought greater anonymity between their virtual and material identities were the ones who most often reported being not only a more positive self in Second Life, but also more the self they always believed themselves to be: ("i know i am a great person…i have learned to be more open here").

McKenna et al. (2002) suggested that people who may have trouble forming social relationships in their material worlds, such as those who are socially anxious, may be better able to express the

true self through the Internet. In our interviews we did not collect any direct data about social anxiety or other problems in forming social bonds, but the structure of the personal transformation stories fit a pattern of Second Life facilitating a way of being that had not been available to them previously. This role of Second Life in facilitating the expression of the true self is very much in tune with Turkle's (1995: pg. 263) description of virtuality as "the raft, the ladder, the transitional space…that is discarded after reaching greater freedom."

The metaphor of a connector between the virtual and material selves suggested by Turkle (1995) is compatible with the stories we heard from our respondents. The connections are overt, explicit and intentional for those with open boundaries. As boundaries became less open, the connections were more internal to the individual controlling the avatar, but not necessarily any less intentional. Kennedy (2006) has argued that the connection of virtual selves back to the off-line self is a much stronger one than seems to be assumed by much of the current literature on Internet identity. We saw Kennedy's arguement reflected n our data in the frequent statements about the importance of remembering, "that there is a person behind the pixels… SL is just a whole bunch of RL people. Same attitudes, same issues, same everything."

Protecting their reputation or image – within both the virtual and material worlds—was also a reason participants gave for maintaining firm boundaries. One man told us that his friends in Second Life "would be shocked to know that I am a 65 year-old grandfather", and that among his inworld friends, "I... don't talk about grandchildren." Another man said he kept his material world identity separate because "I felt it destroyed the illusion…My RL identity is considerably different than my SL persona."

Concerns over people learning about discrepancies between the identities in the two worlds centre on two issues -- deception and stigma (Caspi & Gorsky, 2006; Goffman, 1963; Hancock, 2007). These are distinct, but not unrelated issues. Some respondents kept secret their material world identity, or aspects of it, because of the potential stigma attached to those aspects. The stigma was more serious in some cases than in others. For the 65-year old grandfather, the mild stigma associated with old-age in Western culture led him to live his Second Life as a youthful "man about town", and to be strategic when talking in Second Life about his material world situation such that the illusion would be maintained. Several respondents faced stigmas in their material worlds associated with physical disabilities, and their maintenance of the separation between an able-

bodied avatar and the material self gave them a place where the stigma did not colour their relationships and they could, as one woman put it, "live the fantasy that i am young and beautiful again."

The boundary was seen as a way of protecting material world reputation as well. Shari told us that she is a visible public figure in her material world who must consider the widespread effect of her words and actions: "even posting an opinion on a blog in my real name can result in people drawing conclusions about my organization." For her, keeping the strict separation between the two worlds not only is necessary for the welfare of her material world organization, but it also frees her "from the responsibility to always consider my words and their impact." Second Life activities or roles that would carry stigma within the material world were another reason to keep those behind a firm boundary, as reflected in one man's expectation that people in his material world "would freak out to find I am a slave owner...one who uses pleasure slaves."

Reputation solely within Second Life was a reason for maintaining a special kind of anonymity associated with using multiple avatars. Participants who routinely used alternative avatars (known as "alts") reported varying approaches to the anonymity of those alts and the boundary between the alts' identity and the material world

identity. For the most part, people described their approach to the boundary for their alts as similar to that for their principal avatar. Anonymity of the alts *within* Second Life was important, for reasons that also were largely associated with stigma. For example, Irving told us "I hate to admit this, but Alt 2 does a lot of camping. That is why I don't let people know who he is; it is a little embarrassing." Camping in Second Life is a popular way to earn money, and involves leaving one's avatar parked in certain locations for a specified time. Second Life residents who own inworld land use the practice as a way to increase the traffic in their region, which has the effect of raising its inworld visibility (Boellstorff, 2008). But it is generally considered an activity for "newbies" and others who lack skills to earn money in more sophisticated ways. It is seen by many as somewhat "low-class" and "cheap." With Alt 2 to do the dirty work of making him money, Irving can maintain his worldly image and lifestyle.

Alyson also uses an alt to do the chore of cleaning the objects that other avatars leave behind on her land. Such "littering" poses a problem because there is a finite number of objects that every parcel of land can support, and it can ruin the atmosphere or

aesthetic appeal the owner wants to create. The reason Alyson gives for keeping the identity of her alt a secret illustrates the different senses of identity she perceives between herself and her avatars: "You should see the hate mail she gets! If I broadcast that she is me then I would get the hate mail in this avatar. It is strange, but I can take the abuse in that avatar but not this one."

Privacy from Second Life friends and acquaintances was a further reason for using alts. People needing undisturbed time for building, for example, may simply enter Second Life as an alt unknown to any of their acquaintances. Less prosaic reasons for keeping separate inworld identities, however, often were related to sanctioned activities– primarily associated with sexual behaviour. Role-playing that involved BDSM (bondage, discipline, sado-masochism) is an example. These alts might be kept anonymous to the main avatar's social circle because of stigma attached to such behaviour, or alternatively in order to allow that character to immerse fully into the world of the role-play. Robin explains this latter approach:

"I exist…primarily in a mature roleplaying environment...the activities there can involve sexual activities, intimacy and a fair amount of revealing behavior. I have an "alt"...he is used for roleplay in which my primary identity needs to be concealed."

The Robin keeps anonymity between his alts within Second Life, yet he was one of the respondents who reported having an open

boundary between the identity of his main avatar and his material world identity. Anonymity between alts also concealed sexual liaisons with multiple partners. Kira for example participated in the interview as her main avatar, and told us she has three avatars in total. She said of her relationship with her Second Life partner, _{"everyone} _{knows that we are a couple... but he is not the one that i spend time with as the third ava-} _{tar…hehe…lifts her finger to her lips and whispers, 'Ssshh'."}

The management of identity across multiple inworld personae illustrates not only the enactment of multiple identities but also the fluidity with which people move in and out of these different shades of self. Turkle (1995) relied on Lifton (1993)'s conception of the self as protean to analyse the way that the Internet fosters easy movement between these multiple enactments. Similar to the shape-shifting Greek god Proteus our respondents crafted identities in response to the internal demands of their motivations and the external demands of social context. We saw in their strategies for managing the boundaries among the virtual and material selves efforts at finding the "right self for the right situation" (Gergen, 2000). At the same time, we got a sense from all of our interviews of the presence of an es-

sential core through which the multiple personae were connected, as illustrated by the following quote from Leon:

> " my RL perspective will guide my behavior in Second Life.. I don't believe that I am a completely different person in second life just because I have new opportunities here. I believe RL experiences will influence my choices in second life. I believe that my opinions of things in real life will influence things I try, places I visit, and the people I interact with…"

Even when Alyson who says, "SL…has no relationship to RL other then fantasies that I have had and try to do in SL, such as owning a club, being a real estate mogul, etc." is nevertheless expressing fantasies that obviously were born from her own psyche.

We do not think this means that it all boils down to the "person behind the avatar." The material world avatar, as some like to like to say, can be significantly transformed by the virtual world avatar (e.g., Yee et al., 2009), which can then of course be recursive in revealing further nuances in virtual personae, and so on. At the same time, we believe it is important to take heed of Lifton's (1993) and Turkle's (1995) caution that the ease of shifting between different lives –as distinct as they may be – does not the absence of an identifiable core self. The jigsaw puzzle does yield a picture.

Future Research (or Questions We Wish We'd Asked)

The anthropologist Clifford Geertz (1983, cited in Boelstorff, 2008) has been widely cited for his critique that Western notions of self-hood as being "bounded, unique and more or less integrated" motivationally and cognitively. There is much evidence that the self is not this way. Perhaps it never has been. The mutable, constructed, deconstructed and reconstructed self is as much a reflection of as a product of the Internet Age (Boelstorff, 2008; Gergen, 2000; Teske, 2002; Turkle, 1995). In her recent critique Kennedy (2006) suggests that the focus in Internet identity research on the multiplicity of the self may have gone too far and that a core focus on anonymity may yield limited new insights. The stories told by our respondents are consistent with Kennedy's arguement that a fair amount of continuity exists between virtual and material world identities. Although our participants described the barriers they used to keep knowledge about specific pieces of data about their lives from passing between the two worlds, we saw that there was nevertheless a great deal of data that passed through those boundaries, for all our participants, and the direction of travel was two-way.

Our interview protocol asked participants whether they had multiple accounts in Second Life, and now we wished we had thought to ask them whether they used other people's existing accounts. Did they, for example, ever take over another person's avatar? Sometimes people may do this to fill in for a friend who has obligations within Second Life, such as teaching a class, but is unable to log in themselves. The questions of how they felt taking over a persona not of their own making, how they communicated with other people who know that personal, and what identity information thy disclose. Learning how people cope with a situation like this one would provide some insights into the limits of the mutability of the self.

We also wish we had asked our participants about their experiences in other virtual environments, though some did volunteer information about this in the course of answering our interview questions. It would be useful to examine how information management strategies are carried over between different environments. To what extent do those strategies reflect characteristics of the individual? To what extent do the strategies reflect the nature of the environ-

ment? Responses to these questions would yield information of potential importance to understanding the role of design features of virtual environments in identity construction processes.

The question of sampling is important to take into consideration in the interpretation of our data, and of implications for future research. Was our sample representative, and representative of what? It was not clear to us at the outset (and still is not) what population characteristics we wanted to represent in the sample. We made some choices that seemed to be reasonable starting points. Our choice to limit the sample to U.S. based residents was based on limiting the variation within a population whose parameters were already difficult to ascertain. An important direction for future research would be to examine cultural and national differences in the approach to anonymity and identity (Markus & Kitayama, 1991). Equal numbers of men and women with a median age close to the published Linden Lab demographics seemed about as far as we should go. We made no attempt to sample or to eliminate participants from specialised populations or subcultures such as elves or

furries[5], though we did ask whether people were involved in such groups.

Our sample consisted of people who were largely happy with their Second Life experience, and who spent a reasonably large amount of time there. On the average they reported spending time there daily and from a few to many hours each day. Only 20% of them were in Second Life strictly for work or business reasons. Our sample thus represented people who get a lot of personal enjoyment for their time in Second Life. They might also represent people who are more likely than are other populations to find the Internet an easier place to express the true self (McKenna et al., 2002). It may be reasonable to assume that people who are less satisfied with their experience will not stick around Second Life for very long, and thus our sample might indeed be representative, but we cannot be certain. We are just as uncertain the extent to which people who are interested and willing to participate in research studies are representative of Second Life users.

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[5] People who "identify with animals or who are animal like" (Boelstorff, 2008: pg. 184) and whose main avatar is usually an animal or has prominent animal features.

At the outset of this study, we hypothesised a linear process of anonymity elimination and identity disclosure. In this simplistic process, comparable to the onion metaphor (Altman & Taylor), as relationships between individuals interacting in Second Life unfold, they disclose more and more pieces of information to the point where anonymity can no longer be assumed, and one's "true" identity is revealed to another. Our interviews reveal a much more convoluted, recursive, ever changing and never ending process. Being anonymous or identified in a virtual world is not a dichotomy, but consists of many facets. Even if we take into consideration the material world only, self identity is ever evolving, spanning multiple social environments in which individuals identify themselves in different ways given social situations they find themselves in. Adding to this interaction in a virtual world, where one can add additional layers of identity, multiplies the complexity of the relationship between anonymity and identifiability. Each of our interviewees represents a whole universe where the complexities of the different parts of one's identity can cohere in one situation and collide in another. There may not be layers of onion to get through to reveal one's true iden-

tity. Even the puzzle metaphor oversimplifies an intertwined process, because the final picture may be changing as well as the pieces themselves.

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