

Exploring the Immersive Parasocial: Is it You or the Thought of You?

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Abstract

Immersive and persistent 3D virtual spaces have been adopted for e-learning in higher education. These spaces involve multi-sensory, real-time interactivity with other learners through high-fidelity, human-embodied avatars as well as automated 'bots; these involve virtual contexts that situate various types of learning. Practitioners have discussed promoting immersive addictions to support long-term, deep-transfer, and complex systems-based learning. The social presences of human-embodied avatars, in individuals and groups, and their communications-heavy interactivity, have encouraged the development of parasocial relationships in several forms: self-love of people for their own avatars (which they may build up with a range of attractive features and digital powers), and other-love for others' online personas. Understanding the parasocial spectrum will be important for those heading into immersive multiverses, especially with campuses starting to offer full-service virtual and distance support systems that encourage distance learning without the hybrid / blended or any aspect of face-to-face (F2F). This position paper explores ways to build immersive learning and to communicate to elicit the salutary parasocial effects while avoiding possible negative ones.

Keywords: parasocial, 3D immersive, persistent virtual space, human-embodied avatar, social presence, virtual relationships, multiverses, haptics

Introduction

The virtual landscape of the university evokes a mix of Ivy League and sci-fi, with classic structures, soaring buildings that defy gravity, and brick paths with scampering digital squirrels running among the shimmering trees. It is a dreamscape with snow falling softly, through the cycles of day and night. A uniformed campus police officer avatar addresses the visitor with a friendly "hello" and gives the exotic name of the designer of the digital space, when asked. Further in this university space, the digital avatar explores. She reads the contents of various kiosks. She downloads free e-books. Then, she falls into an underground cavern of water and tangles briefly with an automated octopus.

In prior visits, she visited a virtual Shakespearean town where visitors dress up as various characters and role-play their parts. She experienced an electronic laboratory in a sky box where a scientist worked with a digital Bunsen burner and poured digital liquids, with coded properties. She spent time in a digital house, with accessibility devices on display. She'd teleported to a darkened dance hall with muted lights: here, avatars danced to an electric beat and floated above the pulsing dance floor in virtual world physics maneuvers that defied gravity. The experiences are phantasmagoric, and this is an introduction to the new university commons.

The level and scale of immersiveness in digital spaces has been growing with the renewed interest in using such spaces for social interactions, training, and learning (Jäkälä & Pekkola, 2007). These situated experiences involve "social affordances" among the participants (DeKort & Ijsselstein, 2008, p. 18:3): individuals may interact with others using text, audio, 3D visuals, and physical avatar body language; they may portray themselves in a variety of ways; they may share digital artifacts they have created; they may virtual money-based interchanges.



Figure 1: A Screenshot of an Immersive Space on Second Life®

Immersive World Affordances

The technologies supporting such cyberworlds have progressed with the development of artificial life spaces, where individuals (as human-embodied avatars) may interact with “artificial life” ecosystems with scripted evolutionary changes, and individual creature behaviors. Here, humans and artificial intelligence (AI) ‘bots live, breathe, and have their being.

The growing forays into immersive and persistent spaces have allowed people to create digital avatars that encapsulate much of the human learner—the looks, the voice, the personality, and some of his / her interests. The great attention people use to build their digital selves reflects their investment in their own social presence. Some suggest that their online selves are virtualized personas that reflect aspects of themselves, and they have a toolkit of various identities for different functions or aspects of themselves; others create actual photo-realistic digital avatars to represent themselves, and their avatar images and photo headshots are eerily similar. In the same way that personalities may be portable between social networking platforms (Reymann, Alves, & Lugmayr, 2008), technologies are pushing for the portability of 3D avatars between 3D platforms. While some identities are keepers, for others, their virtual identities may be eminently disposable (Ford & Strauss, 2008), with the ease of creating new selves at virtually no cost.

Ageless digital avatars now blink and adjust their bodies for comfort; they have their own “autonomic nervous systems” in a world driven by its own pseudo-physics and digital biology. Researchers observe the lifelike qualities of avatars (Wilcox, Allison, Elfassy, & Grelik, 2006). Some *AI-animated robots in humanoid form interact with site visitors and engage them using natural language interfaces (text and voice)*. As mediums, persistent immersive worlds “facilitate a sense of understanding, connection, involvement and interaction among participating social entities”, and in so doing, promote “parasocial presence” (Kumar & Benbasat, 2002, p. 5). “Emo” (emotional) agents interact with computer users emotionally, echoing back some of the facial expressions and communications from the wired-in human. Flocks of birds—in algorithmic formations and simple agent behaviors—cross the synthetic skies.

The Internet is said to be a “construct of the imagination, an inkblot test into which everyone projects their desires, fears, and fantasies” (Noam, 2005, p. 57); even more potently, with the advances in multi-sensory immersion in persistent spaces, these synthetic worlds may more magnify fragmented realities—those of the real and the virtual.

There have been predictions of people in immersive spaces lacking the conscious discernment between the real and the unreal ([hyper-reality](#)), with a merging of the virtual with reality. There have been apocryphal concerns about the addictiveness of these virtual cyberworlds for some participants, particularly those who are lonely or emotionally frail. Some have suggested the employment of [parasocial](#) illusions to increase the engagement and enjoyment of learners. Parasocial relationships are one-way relationships with a media character or avatar representation, without a true human connection. Historically, these parasocial relationships are used to enhance the viewers’ movie-going experiences, to connect consumers with brand representations, to intoxicate constituencies of particular political leaders, and to spark appetites for particular products through advertising.

The creation of illusory memories “can be especially damaging because there are no guaranteed techniques that experts can use to discriminate between real and false memories,” suggests one cognitive psychology expert (Reed, 2004, p. 179). People may experience failures of their “reality monitoring” and confuse internal and external sources of information (Reed, 2004, p. 177), or experience “source amnesia” (confusion about where and how a particular memory was formed) (Goleman, 2004, as cited in Reed, 2004, p. 108). They may express “techno stress” and maintain expectations of other humans based on computing machine behavior, “providing instant responses, attentiveness, and an absence of emotion” (Laudon & Laudon, 1999, p. 476, as cited in Stahl, 2002, n.p.). False memories from imagination may spring up albeit without critical sensory information (American Psychological Association, 1996, as cited in Reed, 2004, p. 230), but the rich sensory experiences of online spaces may fill in some of those sensory gaps. And the persistence of virtual spaces makes them parallel worlds to the “real” one(s).

On the extreme edges, the parasocial phenomenon has also led to human objectification, unhealthy attachments, obsessions, and imaginary “relationships”. The richness of mediated intercommunications has made such parasocial obsessions possible even with automated robots, with people interacting with computer scripts. Some writers observe that it might be difficult to remember that “a character with whom one interacts in a sophisticated virtual reality system is actually just a sophisticated set of computer-generated images and sounds” (Lombard & Ditton, 1997, p. 24).

This article explores the potential implications of full-sensory [immersiveness](#) and both the desirable and undesirable effects of the parasocial factor in immersive e-learning. This first offers a view of the research literature on issues of related technologies and immersive effects on people. Then this will offer a way to conceptualize parasocial relationships from a benign to a less-benign continuum. Finally, this suggests initial ways to design online instruction with “restrained” parasocial interactions that do not play the dark edges.

Literature Survey

Research into how people interact with computers has shown that people sometimes treat inanimate computers as if they are sentient. They will use gendered responses to machines based only on vocal or voice cues (Nass, Moon, & Green, n.d.). They respond to invasions of personal space by digital avatars, with “the severity of the response to invasion of personal space is more strongly correlated with the presence of another person than to a neutral object” (Wilcox, Allison, Elfassy, & Grelik, 2006, p. 413). The observed reactions included “heightened anxiety, defensive postures, reports of discomfort, and even avoidance behaviors” (pp. 413 – 415).

The technological affordances for e-learning have made immense strides. Increased fidelity of high-definition imagery enhances a sense of another’s human presence (Bracken, 2005). Digital photos of people’s faces may be brought in as a human-face “texture” on avatars, for example, for deeper individualization and customizability. Information exchanged in immersive spaces includes videos, photos, and audio, which may link these experiences more with the real world. Avatars may be highly customizable and infinitely malleable, with a whole new character created with a few clicks of the mouse, and whole closets of identities that may be accessed for different purposes.

Human presences have been enhanced through a variety of technologies (Lombard & Ditton, 1997). This co-presence enables collaboration and the sharing of ideas and communications.

Co-presence, which ‘renders persons uniquely accessible, available, and subject to one another’ (Goffman, 1959, p.22), has been linked to both the sensory awareness of the embodied other, for instance the possibility to see or hear the others, and mutual awareness, the awareness of the existence of the other accompanied by the other’s reactions to the self (Scarpetta, 2008, p. 28).

Not only is there a representation of physical presence but psychological presence and involvement—the sense of access to another’s intelligence, emotions, and maybe even, motives. Avatars have been created to influence human attitudes, values, and behaviors. Virtual peers have been harnessed to motivate live human learners (Kim, Hamilton, Zheng, & Baylor, 2006).

An Immersive “Digital Enclosure”?

Spaces that are immersive are not only virtual persistent-world ones. Augmented virtuality brings real-world elements into online spaces; augmented reality brings digital elements into real-world spaces. The development of less obtrusive, wearable computers and computer-enhanced artifacts may make virtualized experiences feel real—in the way that radio is said to go directly into listeners’ minds without closer awareness of the mediating machine and technologies. People are activated (pushed to belief and action) by media messages, for good or for bad (Huxley, 1958). Two authors note:

A number of emerging technologies including virtual reality, simulation rides, video conferencing, home theater, and high definition television are designed to provide media users with an illusion that a mediated experience is not mediated, a perception defined here as presence (Lombard & Ditton, 1997, p. 1).

M. Andrejevic’s (2007) dystopian fears of the machine and human surveillance in the ubiquitous “digital enclosure” become even more sinister in the context of the immersive parasocial. In this panopticon world, there are no secrets, and every decision and every action is observed electronically. In this scenario, people could be pawns in a conceptual space (“The Matrix”), responding to scripted AI robots and pre-planned digitally-mediated experiences, and monitored at every juncture. Every expression, every action, and every digital thought could be surveilled and interpreted.

There is more sophisticated context building for “situated cognition” with the use of narratives or stories (Lave & Wenger, 1991). Storylines change mediated social dynamics and the “motivational, psychological, and physiological experience” (Schneider, Lang, Shin, & Bradley, 2004, p. 361). Such stories enhance learner sense-making, enjoyment, immersion and arousal (Schneider, Lang, Shin, & Bradley, 2004). Overarching narratives provide coherence and shared histories; they offer a framework (or schema, to use an academic term) through which people may experience the virtual universe and the experiences and characters who are found there.

A narrative world, according to transportation theory, entrances visitors to lose themselves and leave the real world behind. This narrative world brings together

...a melding of attention, imagery, and feelings [Green et al. 2004]. The theory of disposition relates positive or negative attitudes toward media characters to moral evaluations of their actions [Raney 2004], as well as empathy for the main character (Nabi & Krucmar, 2004, as cited in Sweetser & Wyeth, 2005, p. 2).

Cues in the virtual world indicate how humans should interact with the various characters, through the affective disposition theory, or theory of disposition; these suggest that particular cues (conscious or subconscious) evoke emotional responses in people towards media characters as well as concepts. The set of theories that support the concept of “affective disposition” suggests that media consumers form emotional affiliations with characters and are invested in the plot outcomes linked to those characters (particularly protagonists). As people immerse more into narrative worlds and discover their capabilities there, they may experience a sense of “flow,” as described by psychologist M. Csikszentmihalyi, when the difficulty of a task matches their skills (Csikszentmihalyi, 1991).

Situated cognition may also be enhanced through digital experiences in the 3D, where objects extend along the x, the y and the z axes and where objects have digital volume and virtual heft. The persistence of virtual worlds deepens their sense of constancy, in the same way that the real world is “its own memory” in terms of how rich and full-sensory it is.

Learners are encouraged to create digital avatars and invest time to design their “digital selves,” with some universities encouraging learners to make their digital selves appear similar to their physical selves. Research into avatar creation with game characters has shown greater identification with fictional characters when the individual chose his or her own avatar (Chung, deBuys, & Nam, 2007, p. 712). Many use their avatars as a way to project their social presence into virtual spaces, where they may engage in “willed social interactions” or engaging in parasocial interactions “with an imagined other or when ‘no other’ or no intelligence is objectively aware, present, or responding to the interactant” (Biocca, Burgoon, Harms, & Stoner, n.d., p. 14). Some researchers suggest that people go to virtual worlds and live vicariously through their avatars “as the equivalent of human beings: they walk, talk, smoke, gossip, learn, and even die in a virtual sense” (Junglas, Johnson, Steel, Abraham, & Loughlin, Nov. 2007, p. 90). These are spaces for individual experimentation in identity formation (p. 91).



Figure 2: Adjusting the Eyes on an Avatar / A Digital Shrug

Human-embodied [avatars](#) are more full-sensory. They may interact using a variety of channels, with more multimedia-rich audio or video interactions outperforming text-based communication in many studies (Bente, Rüggenberg, Krämer, & Eschenburg, 2008, p. 291). Their body language not only involves autonomic responses like blinking, but there are all sorts of nonverbal behaviors and physical states of being that may be conveyed (Bente, Rüggenberg, Krämer, & Eschenburg, 2008, pp. 289 - 290). Deictic gestures (referential movements that people use as part of communications) that add richness to interactivity and intercommunications may also be conveyed virtually. Talking facial images have been shown to increase human attention and the phenomena of virtual presence (Ravaja, 2004a, as cited in Ravaja, 2004, p. 226).

The New Parasocial

This new immersive then involves shared mental, emotional, and cognitive interaction spaces that involve symbolic human “presences” through avatars. These spaces are persistent, available 24/7/365, and are global. Created characters or avatars may exist for years on end; they may be regular parts of people’s lived lives and self-identities. The sensory details may be alluring and mesmerizing. They may be so rich in engaging people’s senses of vision that individuals may be primed with imagery without realizing it; impressions may be formed and yet bypass cognitive evaluation given human visual hard-wiring and visual memory.

Humans regularly deal with the “representations” of others in ways that other species do not:

While other species may sometimes respond temporarily to mediated others, we are the only species that engage *in sustained and prolonged interaction with representations of others*. In a society where mediated interaction is increasingly common, we may spend more time in social and parasocial interactions with mediated others than in face-to-face interactions with people “in the flesh” (Biocca & Harms, 2002, p. 14).

The immersive parasocial, then, refers to the one-way relationships people may form with anthropomorphic automated ‘bots and avatars. There may be persistent misreading of the depths of relationships (the varied transactional distances) that go unremediated and unaddressed between

human-embodied avatars. There may be the illusory perception of non-mediation in interactions between human-embodied avatars. Virtual presence may be perceived as the experiencing of virtual objects “as actual objects in either sensory or nonsensory ways” (Lee, 2004, p. 27). The parasocial aspect refers to “the degree to which users illogically overlook the mediated or artificial nature of interaction with an entity within a medium (Lemish, 1982; Lombard, 1995; Nass & Moon, 2000, as cited in Lee, 2004, p. 31).

The dissolution of space-time via immersive spaces not only dissolves some physical boundaries but may well lessen people’s sense of real-space defenses. Through the computer, their interactions may feel somewhat safer even though other avatars may have mutable identities and not be easily trackable for the common user. There may be a greater ease of intimate sharing of information that may be less likely to occur in actual face-to-face settings. Research has found that cognition-based trust may be easier to establish in virtual environments, but affect-based trust is also critical there (Bente, Rüggenberg, Krämer, & Eschenburg, 2008).

Historically, parasocial relationships tend to be imaginary one-way relationships between media users and on-screen characters, through frequent exposure (Horton & Wohl, 1956). Based on that concept, some researchers suggest that people who are more exposed to their own avatars through the creation process may have a greater sense of parasocial interaction (Chung, deBuys, & Nam, 2007). Research using self-report from participants has found that people consider embodied conversational agents who resemble them to be more persuasive, in the same way that people consider others who resemble them to be more persuasive (Li, Forlizzi, Dey, & Kiesler, 2007). This then is a self-reflexive concept—a kind of self-love of one’s digital representation, a Narcissus looking adoringly at his own reflection in the digital pool. Haptic research continues to try to help humans relate to their virtual avatars for “out-of-body” (and into virtual) experiences (Azzu, 2009).

Such relationships do not involve much of a sense of “obligation, effort, or responsibility on the part of the spectator” or much of an expectation of reciprocity or relationship development, observe Horton & Wohl (2006, n.p.). Participants may quit at any time and end the imaginary moment. Table 1 highlights some of these differences.

Table 1. *Salient Points of Comparison between the Social and the Parasocial*

The Traditional Social	The Immersive Parasocial
Multi-way relationships	A simulated relationship(s); one-way discourse with a ‘bot
Real, authentic	Imaginary or partially imaginary
Developed over time, gradual	Built on swift trust and assumptions
Animated human other	Inanimate object of attention; human-mediated avatar
Mutual commitment	Zero to no commitment between parties
Continuing relationship	Transitory relationship
Healthy	Vicarious, obsessive, and substitutional
In the real	In the virtual, augmented reality, and augmented virtuality

The literature addresses media personalities that are designed to convey particular seductive messages that may appeal to those who may be particularly lonely and seeking affection. Others design a purposive ambiguity as part of a larger communications strategy to convey illusions through the “appropriate tone and patter.” Illusions of intimacy may be created with the sharing of small talk, intimate details, and shared time. Dangers emerge when parasocial relationships stand in “for autonomous social participation, when it proceeds in absolute defiance of objective reality, that it can be regarded as pathological” (Horton & Wohl, 2006, n.p.). Other researchers concur:

Insecurely attached persons appear to more readily form parasocial relationships, most likely as a compensatory response to their relational anxiety and incompetence (Cole & Leets, 1999). Regardless, it appears reasonable to assume that despite their ‘imaginary’ nature, such

relationships can mimic many of the functions and patterns of ‘real’ relationships (Boon & Lomore, 2001, as cited in Spitzberg & Cupach, 2008, pp. 288 – 289).

Parasocial relationships meet fundamental human needs for personal identity and companionship. Their needs are met vicariously and symbolically, albeit with bleed-over effects into the real:

Individuals are able to use characters’ situations and experiences to understand their own lives, and they tend to evaluate characters using criteria typically applied to individuals they meet in their daily lives, such as attractiveness, similarity, and the likelihood of establishing a bond of friendship with a character (Giles, 2002, as cited in Green, Brock, & Kaufman, 2004, p. 319).

Role playing games have been found to meet individuals’ “psychogenic needs” defined as “materialism, power, affiliation, achievement, information, and sensual needs” (Bostan, 2009, p. 22:1). With the greater multi-sensory affordances of immersive spaces, the various “zones of sentience” from human tactile, olfactory, gustatory, auditory, and visual senses are brought to bear (p. 22:10).

Historically, parasocial relationships have been used for behavioral manipulations: to encourage people to buy a particular product (Beniger 1987:354) or to better control an individual to another’s whims (Rogers 1994:307, as cited in Brooks, 1997). However, various researchers show that parasocial relationships are not necessarily negative but “dysfunctional and pathological trappings” of parasocial ties fall along a continuum (Spitzberg & Cupach, 2008, pp. 288 – 289).

Some Issues

Constructivist theory would suggest that learners make meaning together through interactions with each other. The pro-social aspects of parasocial relationships may emerge through the virtual pseudo-communities that form.

The concept of the immersive parasocial is a nuanced one and may be understood along a spectrum of effects, such as in “The Spectrum of Effects of Immersive Parasocial Relationships” (Fig. 3). In a sense, those to the left end of the continuum may be seen as more socially positive than the extreme parasocial effects to the right, which allude to obsessions. The socially positive aspects that many in e-learning are striving to harness include greater learner attention-getting, engagement and intercommunications with fellow learners.

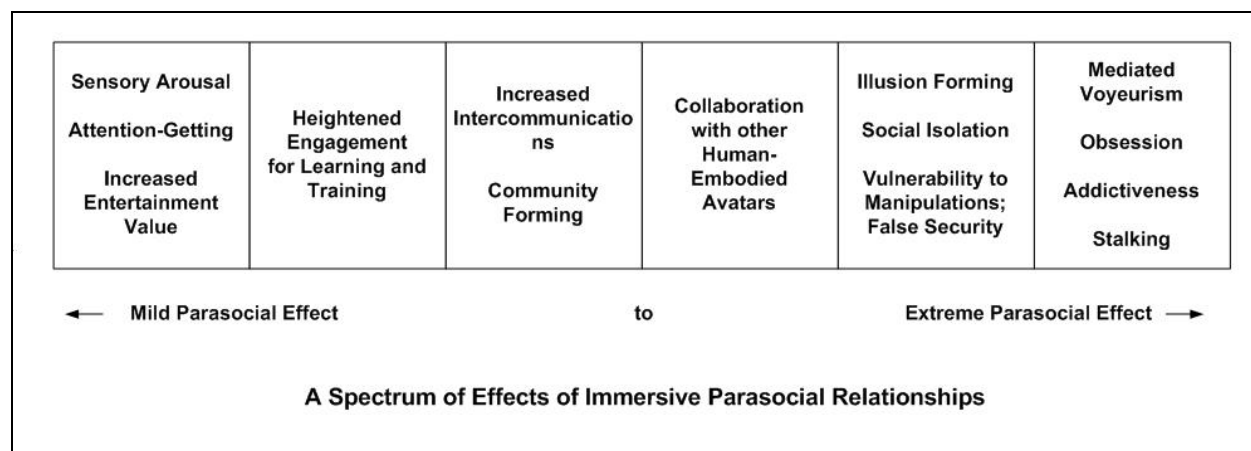


Figure 3: *A Spectrum of Effects of Immersive Parasocial Relationships*

The mild end of the parasocial effect may involve sensory arousal, attention-getting and some increased entertainment value. Next, there may be heightened engagement for learning and training, with proper pedagogical design (Bopp, 2006). Then, there may be increased intercommunications among communities or networks of practice, or learners. There may be further collaboration with other human-embodied avatars. Individuals’ parasocial identification with virtual others may determine the quality of the learning experience (Mantovani & Castelnuovo, 2003). For instructional design purposes, the four cells to the left end of the spectrum are desirable, to harness parasocial interactions and relationships for pro-social and pro-individual uses.

The next two steps in the spectrum may be more negative. There may be illusion forming, social isolation, and individual (or group) vulnerabilities to manipulations and a false sense of security. At the far extreme may be the risks of mediated voyeurism, obsession, addictiveness and stalking. Castronova refers to this as “toxic immersion” (2005, p. 238).

Building E-Learning with the Parasocial in Mind

Designing for limited parasocial connections

For e-learning, then, the concept is to build immersive 3D spaces that involve reward structures that encourage active and engaged learning and sufficient persistence to capture the necessary knowledge and skills. The design of rewards should taper once the learning has been firmly established. Avatars need to be sufficiently detailed for identification and self-expression. There should be builds to the avatars that encourage self-efficacy and esteem but potentially avoid obsessive self-love or unhealthy fixations on others.

There will need to be the “early wins” of initial successes and involvement in the learning (Chung, deBuys, & Nam, 2007, p. 713). The communications need to be sufficiently personalized to keep learners engaged but also not falsely intimate or misleading to manipulate the immersive parasocial aspects. The social cues presented should better fit the situation of the mediated interaction (Lombard & Ditton, 2000, p. 4). Some researchers call for more attention to communications research of interpersonal communication through email, instant messaging, and blogging of “intimacy at a distance” MacDougall, 2005, p. 593).

Various endeavors support the creation of immersive parasocial connections, particularly in the entertainment industry. One relates to the use of “direct address” in photography to encourage the parasocial connection of viewers with models. Software will simulate virtual relationship cultivation and building with a virtual individual (Lombard & Jones, 2004), sometimes culminating in cyber affairs (Bostan, 2009, p. 22:22). There’s no small amount of impersonation online as it is, and immersive spaces offer yet another venue for identity play. Virtual entertainment appeals to the human needs as identified through the “hedonic framework,” which focuses on human consumption of aesthetic products, with imaginal (role projection, fantasy, and escapism) and emotional (emotional involvement, arousal and enjoyment) interactions with virtuality. The authors write:

Fantasy can be viewed as the imagined events or sequences of mental images representing an integration of the demands of all the psyche and reality components (Conrad, 1966, p. 4). According to Hirschman (1983, p. 64), role projection involves the mental activities whereby individuals project themselves into particular roles or characters, while escapism refers to an individual’s desire to escape unpleasant realities or to distract his/her attention from problems and pressures. Enjoyment is defined as the degree to which performing an activity is perceived as providing pleasure and joy in its own right, aside from performance consequences (Venkatesh, 2000, p. 351, as cited in Holsapple & Wu, 2007, p. 86).

Such open-ended and clearly manipulative designs should be avoided in the academic realm. That restraint will be important because the authoring tools are becoming easier to use to develop extreme parasocial engagements. Even the utmost transparency of a designed embodied avatar may still lead some vulnerable learners into obsessive parasocial relationships.

Addressing Parasocial Illusions

One line of research in the immersive parasocial should involve ways to mediate relationships with as few negative side effects as possible, optimally without a need for human interventions. Breaking up an individual from the object of his or her parasocial obsessions may be helpful in “obsessive relational intrusion” (Spitzberg & Cupach, 2008, p. 311). There may be other interventions, conditioning, and desensitizing therapies to interrupt this parasocial state.

What then breaks the illusions of parasocial relationships in immersive e-learning? What may break the allure and addictiveness to some immersive spaces and the desire for continuance of the related illusions? Symbolically, what will it take to break the screen of rich sensory details and spill the code? How may people be empowered to differentiate between the real vs. scripted, happenstance and created serendipity, and real human interactions vs. the automated ‘bot (that passes the Turing Test)?

In part, this solution cannot lie solely in the design and human facilitation of such spaces. Various researchers point to the decline of community in Western societies with greater impersonality and bureaucratization, suburbanization, mass transit, and mass communications (Brooks, 1997, p. 9). If home and work are the so-called first and second places of people's lives, the "third places" are the communal ones, according to R. Oldenburg, who suggests that informal public gathering places are lacking. The obsessions of those engaging in parasocial relationships must be understood as a part of the culture of "mediated voyeurism" which refers to

the consumption of revealing images of and information about other's apparently real and unguarded lives, often yet not always for purposes of entertainment but frequently at the expense of privacy and discourse, through the means of the mass media and Internet (Calvert, 2000, pp. 2 – 3).

It may well be that some cultures, in the words of U. Eco (writing on American culture), prefer simulacra to the real. If that argument holds, it doesn't matter if virtual worlds are a reflection of the real but just that they are seductive as an alternate multiverse (a term coined in 1895 by William James in reference to alternate universes without order or unity), anything to escape this reality.

Conclusions

The future of the immersive parasocial depends on how societies and global cultures evolve, and with them, the many technology-enabled universes full of avatars, sensations, ideas, and mediated experiences. Immersive technologies blur the lines of "human as machine" and "machine as human." Stahl warned of an existential risk: "The blurring of the distinction between (hu)man and machine can also lead to physical or psychological illness" (2002, n.p.). For the "sea of social information" and human identities online, there are protections of personally identifiable information (PII) and a "social translucence" (defined as "visibility, awareness, and accountability") to enhance social interactions (Erickson & Kellogg, 2000, p. 62), with a balance between human visibility and privacy (non-visibility).

Those using immersive spaces for educational purposes have a critical role in fully exploring the ethical and practical impacts of engaging these spaces. Digital literacy will likely require more sophisticated social cues for faculty, facilitators, and learners. The educational field would benefit from longitudinal research, to understand the design of immersive spaces and their motivational effects on learners. Research may explore the trajectory of mediated individual and group engagement and behaviors, in order to create pro-social intended effects and to avoid unintended ones. These challenges have become harder with more "intimate technologies" like micro-blogging ("you're privy to my real-time thoughts and perceived realities"); social networking ("you can know my secrets and my friends' secrets"), GIS-enabled technologies that enable perusals of people's homes from the street views ("you can see where I live"), GPS-enabled technologies ("you can know my coordinates in real space-time"), and immersive spaces ("this is me in the digital flesh and pore-less perfections").

The unknowability and mystery of another person (and persona) seem to have been solved with deep information technology (IT)-enabled connectivity. There, in the iridescent distance: Is it *you* or the thought of you?

Go to <http://jolt.merlot.org/vol5no3/SomeImmersiveSpacesandAvatarsinELearning.pdf> to access a set of screenshots from immersive learning spaces created in Second Life®.

Note: This was written in the spirit of playing "agent provocateur". However, in this role, many concerns have arisen, and it is the author's opinion that there are some concerning issues in terms of parasocial relationships and online addictiveness in some immersive spaces.

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