Avatars and Sojourners: Explaining the Acculturation of Newcomers to Multiplayer Online Games as Cross-Cultural Adaptations

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Abstract

Only in recent years have formal theories of immigrant and sojourner acculturation been developed. Could these theories be employed to study the acculturation of newcomers into the virtual cultures of massively multiplayer online games (MMOGs)? These gameworlds are inhabited by millions of people worldwide and have emerged as societies with their own cultural myths, schemata, argot, and communication practices. As such, new players may be viewed as sojourners who employ communication to acculturate themselves into the society of the gameworld, accommodate the cultural Others they encounter, and negotiate viable identities. After reviewing theories of cross-cultural adaptation—including Nishida's schema theory and Kim's integrative theory—and what they predict regarding the intercultural communication strategies of sojourners, this article shows how game studies research confirms that new MMOG players deploy communication in the predicted manner to achieve acculturation.

Keywords: cross-cultural adaptation, immigrant acculturation, identity negotiation and management, intercultural communication, schema theory, massively multiplayer online games

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Introduction

With an estimated 16 million subscribers worldwide—a number expected to double after 2012— massively multiplayer online games (MMOGs) are fast-growing venues for intercultural communication encounters. The leading game, World of Warcraft, alone tops 10 million players including more than 5.5 million in Asia, 2.5 million in North America, and 2 million in Europe (Woodcock 2008). The virtual world of Second Life boasts more than a million registered "residents" of whom tens of thousands are simultaneously online at any given time. What differentiates such multiplayer environments from the older genre of single-player shooter games are not only the fantastic landscapes or thrill of adventure and competition, but the opportunities to socially interact on-screen and in real time with other players, to converse by text or voice, and to form gameworld relationships and communities that endure over time.

World of Warcraft players join clans and guilds, buy and sell supplies, and must cooperate to complete group quests that may involve dozens of participants. Second Life residents can buy land, build homes, exercise property rights, enjoy a vibrant urban nightlife, attend live concerts and lectures, establish businesses that engage in real commerce with actual currency, practice monogamy, or engage in open sexual relations. If such gameworlds are seen not simply as artifacts of the "real" world but as emerging societies in their own rights, then new players conform to Nishida's (2005) definition of "sojourners" who, like international students or business travelers, have "motives [that] are more specific and goal-oriented, and their length of stay in a new culture is shorter than that of immigrants and refugees" (408). Such a perspective opens rich opportunities for scholars to study how, in today's burgeoning online environments, these newcomers must master a distinctive host-culture argot and employ communication in acculturating themselves to unfamiliar environments, accommodating cultural Others, and negotiating identity.

After describing why gameworlds may be regarded as cultures, this study will review current theories of cross-cultural adaptation and suggest what these theories might predict about the communication strategies that MMOG newcomers could employ as they adapt to new gameworlds. Exploring this link is

facilitated by the fact that, although "the acculturation of immigrants and the adjustment of sojourners has been of interest to scholars for over 50 years, only in recent years, however, have formal theories been proposed" (Gudykunst, Lee, Nishida & Ogawa 2005:21). In particular, this study contends that Nishida's (1999) cultural schema theory of cross-cultural adaptation can explain how gameworld newcomers must acquire "generalized collections of knowledge . . . which are organized into related knowledge groups and are used to guide our behaviors" (755), and that Kim's (2005) integrative theory of cross-cultural adaptation can be applied to the "process that occurs in and through communication activities" and which a MMOG novice "undergoes vis-à-vis a new and unfamiliar environment" to acquire an emergent gameworld identity (379).

Next, this article will review the game studies literature to demonstrate that research on player behavior, communication, and identity supports the predictions made by Nishida's and Kim's cross-cultural adaptation theories as well as by other theories of immigrant and sojourner acculturation (including Ellingsworth 1983, 1988; Bourhis, Moise, Perreault & Senecal 1997; McGuire & McDermott 1988; and Smith 1999) and identity formation (including Collier & Thomas 1988; Cupach & Imahori 1993; and Ting-Toomey 1993). A summary of these theories' propositions about predicted sojourner behavior, along with corresponding behaviors observed among MMOG newcomers, is presented in Table 1 below.

Table 1. Cross-Cultural Adaptation Theories and Gamer Behavior

Theory	Description	Observed Gamer Behavior
Cultural schema theory of cross-cultural adaptation (Nishida 1999, 2005)	Cross-cultural adaptation occurs as sojourners acquire the host culture's primary social interaction (PSI) schemas through repetition until their cognition is no longer data-driven and they can process cultural information schematically.	"[My initial experience of Second Life] was confusing really, since most of the precepts of other online games don't exist here . . . I fell foul of the fact it's actually frowned upon to drop litter or rez objects wherever you want . . . I spent the first week here wandering aimlessly, chatting to people, building things on land that would let me—as I had seen some land say 'you are not allowed to build here,' I assumed if that didn't happen then I was [allowed to build]!" (gamer quoted in White 2008:23)
Integrative theory of cross-cultural adaptation (Kim 1995, 2001, 2005)	Cross-cultural adaptation is a dialectical process of stress, adaptation, and growth. Strangers arrive enculturated in their native cultures so that the stress of a new environment prompts adaptation, which requires deculturation of old habits and acculturation into new habits. Growth is manifested as strangers gain competence to decode and encode communications.	That players bring their native cultures into the gameworld is suggested by research that found most players in Second Life choose an avatar that resembles their real appearance and race (Diehl & Prins 2008); that gamers treat combat differently according to the gender of the opponent (Eastin 2006); and that gender, race, and ethnicity are predictors of videogame usage (Green & McNeese, 2008). The link between communication and adaptation was evident when the addition of voice chat to World of Warcraft produced "significantly higher levels of relationship strength and trust between voice-based guildmates" (Williams 2007:439).
Interactive Acculturation Model (Bourhis et al. 1997)	Immigrants and hosts respectively manifest orientations toward integration, assimilation, separation, or marginalization to the degree they do/do not want newcomers to maintain their native identities and do/do not want good relations between newcomers and hosts.	A newcomer to World of Warcraft who was mocked and killed by an experienced group of players later wrote, "I died. I felt awful; that I must be horrible playing this game. . . . Sweet, sweet vengeance. It is because of this experience at the beginning of the game that I now go out of my way to kill for honor. . . . That one death at the start changed my whole playing experience . . ." (Klastrup 2008:158).

Ellingsworth (1983, 1988)	Purpose-related encounters inherently favor one participant over another. The disfavored person must communicatively adapt to facilitate task completion, and repeated adaptations change cultural beliefs.	"The most experienced participants tended to use specialized conventions to express themselves more frequently than less-experienced participants, which indicates that experience in online video games plays an important role in the expression of interpersonal communication" and that "the acquisition of experience . . . plays a significant role in message encoding" (Peña & Hancock 2006:105-106).
McGuire & McDermott (1988)	Immigrants who are not deviant and communicate in assimilative ways are encouraged by hosts. Those who are deviant receive negative messages or silence from hosts, so that immigrants may become alienated or hostile.	"[Asocial players] simply experienced the general disconnections of play but without any gains in group affinity . . . [while] the more social players will experience the tentative beginnings of new social formations whereas the less social players will simply feel more left out than they were before" (Williams 2006:665).
Smith (1999)	Immigrants who maintain highly dense social networks of native associations will acculturate more slowly to a host culture, while those whose networks are less dense will more readily form intercultural relationships.	"Those players who were more outgoing and less lonely to start with were the ones who played more often in groups. The less outgoing and lonelier players played alone. . . . [Socializers] had greater losses in off-line social support and were less interested in physical meetings with friends and relatives and . . . experienced gains in trust and having others vouch for them online. . . . The overall pattern simply suggests that these players began to place more value on their in-game social networks at the expense of preexisting relationships. They also apparently felt increases in group efficacy . . . [and] began to develop a degree of out-group antagonism that often springs from insularity" (Williams 2006:665)
Identity Management Theory (Cupach & Imahori 1993)	Persons in intercultural encounters initially manage face by stereotyping. Competent communicators discover shared traits, agree on common relational grounds, and renegotiate identities.	Newcomers in both World of Warcraft and Second Life are called "newbies," "newbs" or "noobs," and only shed that stereotype when they begin behaving according to community conventions (World of Warcraft 2008; Second Life 2009)
Identity Negotiation Theory (Ting-Toomey 1993)	Persons in intercultural encounters must manage a dialectic tension between feelings of security and vulnerability, and between desires for inclusion and differentiation. How individuals manage these tensions will drive their motivation and resourcefulness in communication with cultural others.	A study of in-game chat messages found that, although players exchanged three times more positive messages than negative, inexperienced players sent a disproportionate share of the negative messages—most of which concerned disagreements about breaking a social rule or frustration at the game. On the other hand, "experienced participants . . . may have had a greater interest in ensuring that their communicative behavior was positive to maintain cohesion and satisfaction within the virtual group . . . [and] may have anticipated future interactions with other participants to a greater degree than did the less experienced ones. When individuals expect future interaction they tend to engage in more positive forms of relational communication" (Peña & Hancock 2006:105).

Because social relations are built through communication, sojourners in the "real" world who seek satisfying relationships with their hosts necessarily begin by deploying communication strategies grounded in their native cultures. Only later is experience gained and acculturation can occur. Thus, host cultures are welcoming or intimidating according to their receptivity to "alien" communication. In the same way, the adaptation of new MMOG players to gameworld cultures is, at least in part, a function of the extent to which game design encourages or discourages communicative flexibility.

Do Gameworlds Constitute Cultures?

What is culture—and do gameworlds constitute cultures? Scholars have variously defined culture as material (Herskovits 1955), communicative (Hall 1959:159), ideational (Goodenough 1961:522), behavioral (Harris 1968:16), structural (Birdwhistell 1970:318), symbolic (Geertz 1973), or adaptive (described in Keesing 1974). Yet the two major interpretations that have emerged both present problems. "Viewing culture as an adaptive system can lead to cognitive reductionism, while viewing culture as a symbolic system can lead to seeing the world of cultural symbols as spuriously uniform" (Gudykunst & Ting-Toomey 1996:5). One way around this dilemma is grounded in the symbolic interactionism first suggested by Mead (1934) and Blumer (1969). This perspective recognizes group norms but allows for individual variation. Therefore, proposed Keesing (1974), culture can be "conceived as a system of competence shared in its broad design and deeper principles, and varying between individuals in its specificities." In this view, he continued, culture "is then not all of what an individual knows and thinks and feels about his [sic] world" but "is his theory of what his fellows know, believe, and mean, his theory of the code being followed, the game being played" in a given society so that culture "is ordered not simply as a collection of symbols . . . but as a system of knowledge, shaped and constrained by the way the human brain acquires, organizes, and processes information and creates 'internal models of reality'" (89).

Culture thus becomes "a series of overlapping cultural models," where the "models are schematic cognitive representations of socially significant phenomena that are shared by individuals in a social group" and which "construct meaning for individuals and serve a directive [but not determinative] function for individual behavior" (Dressler 2001:1). The task of the analyst, then, is to explain "the apparent systematicity of cultural knowledge," how people "master the enormous amount of cultural knowledge," and how this knowledge base guides "our comprehension of particular experiences as we encounter them" (Quinn & Holland 1987:3-4). Yet individual mastery of the enormity of cultural knowledge is complicated by the psychobiological limits of the human brain. Miller (1956) and Wallace (1961) discovered that, across a variety of cultures, individuals' abilities to process information through short-term memory would markedly decline when subjects attempted to make more than six or seven concurrent distinctions. For that reason, "Cognitive schemas tend to be composed of a small number of objects—at most seven plus or minus two—because of the constraints of human short-term memory" (D'Andrade 1987:112). Mastering and organizing a seemingly boundless base of cultural knowledge, then, requires some unconscious mental shortcuts.

This is where schema theory becomes important to understanding cultures. Schemas are chains of representational propositions and images that, as they become nested within one

another, "systematically organize how experience is understood" so that culturally shared knowledge is "organized into prototypical event sequences enacted in simplified worlds" and thereby a cultural model becomes formed as "the entirety of a prototypical event sequence embedded in a simplified world" (Quinn & Holland 1987:22). By triggering shared proposition-schemas that delineate concepts and the relations between them, culture members swiftly communicate inferences and listeners quickly fill in missing information to accurately interpret those inferences.

Shared image-schemas allow culture members to import images from the physical and experiential world into the cognitive realm. Lakoff and Johnson (1980) explain how metaphors—for example, anger conceptualized as a boiling liquid (see Lakoff & Köveces 1987)—provide one key to cognitive modeling. For English-speakers, the metaphor argument is war determines the way they cognize the experience of arguing, as seen in their linguistic responses (e.g., "fighting for her side," "defending his position"). One study found that homeowners who conceptualize their thermostats as release valves will control their heating-and-cooling systems differently than those who conceptualize thermostats as self-regulating (Kempton 1987). Such studies strongly affirm that "image-schemas are actually being used to perform the cognitive task . . . rather than just being used to construct the verbal account of the task" (Quinn & Holland 1987:26).

In summary, wrote D'Andrade (1987), "Through hierarchical organization, human beings can comprehend a schema containing a very large and complex number of discriminations." That is because, even though "the number of objects a person can hold in mind at any one moment is limited . . . these objects may themselves be complex schemas." The cultural model of *buying*, for example, is "made up of the *purchaser,* the *seller,* the *merchandise*, the *price*, the *sale,* and the *money*." Yet even one of those parts "is itself a complex schema," so that *bargaining* alone triggers a chain of "*potential purchaser* and *seller,* and *initial price,* a series of converging *bids* and counter *offers,* and possibly a *final agreement*" (112-113, emphasis in original). Thus, pity the poor newcomer who lacks the "generalized collections of knowledge of past experiences which are organized into related knowledge groups and are used to guide our behaviors in familiar situations" (Nishida 1999:755). They are instead thrown onto "data-driven [cognitive] processing which requires effort and attention" (767) and must "actively try to reorganize their native-culture schemas or to generate new schemas in order to adapt to the host culture environment" (768).

Yet even speech is complicated by far more than any language barrier since "speaking is always, at least in part, a function of culture," a culturally-laden act that instantiates distinctive "codes about the nature of persons, about the way persons can and should be linked in social relations, and about the role of symbolic action" (Philipsen 1997:137-138). Argot used, for example, by World of Warcraft gamers (see World of Warcraft 2008) clearly encodes underlying cultural meanings and assumptions, as seen in Table 2 below.

Table 2. Common Argot Used in World of Warcraft

Word	Meaning
aggro	monster on the attack
buff/de-buff	cast a beneficial or negative spell on another avatar

carebear	ally
cheese	exploit an imbalance
creep jacking	attack a player that is already under attack by a monster
griefer	annoying player
grinding	staying a long time in one area
kiting	feint-and-run combat style
newb	newcomer or poor player
pull a Leeroy	act independently of the group
PvP	player-versus-player combat
PvE	player-versus-environment combat
tank	player who takes damage to protect others
train	low-level player unfairly helps by higher-level players
uber	exceptionally powerful

Encoded in the argot of World of Warcraft is a cultural assumption that actions which enhance group performance (e.g., being a *carebear* or *tank*, or *buffing* one's allies) are approved, while actions that unfairly enhance individual status at the expense of group success (e.g., being a *griefer* or *Leeroy,* or engaging in *creep jacking, cheesing,* and *de-buffing*) or slow down the group (e.g., being a *newb* or engaging in *grinding* and *kiting*) are disapproved. Here indeed are, as Philipsen's (1997) theory describes, speech codes that convey underlying World of Warcraft cultural assumptions about the nature of persons, how they should relate socially to one another, and the symbolic nature of certain culturally sanctioned actions. What emerges is a dualistic, perhaps even Social Darwinist, culture of endless struggle where "in practice, most players probably don't pay a lot of attention to the narrative of quests" and instead "go straight to the solution" to gain points, loot, and honor (Rettberg 2008:172-173).

By contrast, the argot (see Second Life 2009; White 2008:63-64) that Second Life "residents" must master to function in their culture reflects, as seen in Table 3 below, a communitarian ethos.

Table 3. Common Argot Used in Second Life

Word	Meaning	Word	Meaning
Afk	away from keyboard	island	sim detached from the Mainland and accessible only via tp

Term	Definition	Term	Definition
AO	animation override; a scripted attachment that replaces normal scripts for walking, sitting, etc	laggy	adjective describing sluggish SL performance
av/avie	avatar	Lindex	SL official currency exchange
avierotica	avatar erotica	link	join prims into an object
Baked	when new clothing attains its normal screen resolution	Mainland	masses of linked non-island sims
Big Six	Second Life Community Standards	Mainlander	resident who lives on a Mainland
bodyparts	parts of an avatar that may be exchanged but not removed	mixed reality	scheduled event that occurs both in SL and RL
Bot	avatar controlled by a machine rather than a human	mouselook	first-person screen view
Build	noun that refers to something that has been rezzed	neko	human avatar that wears cat ears and tail
Corn Field	mythical region for punishing griefers	newbie/noob	newcomer, or someone who does not observe SL conventions
CS	Second Life Community Standards	object	collection of one or more linked prims
camping	being paid to stay on someone's land, perhaps to house-sit or to make an event seem popular	offworld	when an avatar or object goes outside the grid
Chim	impart an animation to other avatars, as at a dance club	orbiter	griefer who sends avatars offworld
Collar	accessory that imparts certain features to the wearer	pose ball	object that, when touched or sat upon, puts the avatar in a pose
Floater	dialog window that appears in the user interface	prim	"primitive" or single item with no parts that can be linked with other prims into an object
Freeze	ability of landowners to immobilize griefers	RL	real life
friendship	sharing of contact information	Resi	resident
full perm	full permission to copy, modify, or transfer objects	rez	create an object or make one appear
Furry	SL resident who takes on an anthropomorphic animal avatar	rezday	anniversary of the day an avatar was created, thus its birthday
Gadget	scripted item worn by an avatar	SL	Second Life
gesture	combination of sound, animation, and chat that is initiated by a command, as an avatar that claps when the resident types "clap" during a chat	sandbox	parcel of land set aside for residents to pratice building
God mode	enabling of administrative tools	script	Command placed within an item to create an effect, as when water feature appears to flow

grey goo	object that continually makes copies of itself	sculpty	sculpted prim
Grid	networked collection of servers	sim	computer server that virtually simulates land
grid monkey	person assigned to care for a grid and resolve technical issues	slebrity	SL celebrity
gridnaut	resident who teleports from one grid to another	slsex	simulated SL sex
Griefer	resident who harasses others	slurl	Second Life URL (Universal Resource Locator)
HUD	heads up display; the control panel for an AO	terraform	change the shape and elevation of land
inworld	adjective applied to anything in SL	tiny	small furry that looks like a stuffed animal
invisiprim	transparent prim often used by furries to hide human bodyparts	tp	teleport

Interwoven into the argot of Second Life (SL) residents are cultural models that encode approval of diversity and expression, and imply disapproval of those who transgress the communitarian ethos. Again, speech conveys underlying cultural codes about the nature of persons, appropriate social relations, and what actions SL society regards as symbolic. Typical of uninitiated newcomers, one SL veteran recalled his entry into SL culture when he "spent the first week wandering aimlessly" and "fell foul of the fact it's actually frowned upon to drop litter or rez objects wherever you want," a community standard much different than other MMOGs where created objects are automatically erased when the player proceeds to another level. He has since observed how "if a new player offends through not realizing a thing is not the done thing in SL, then how the mature player explains this to them is very important," a statement that affirms communication as the key to newcomer adaptation (White 2008:23).

Thus, if culture is the organization of shared knowledge into schemas, novice players enter a gameworld lacking the cognitive models needed to accurately fill in missing information; to receive communications from the game and from other players, and then swiftly make the mental shortcuts needed to arrive at culturally correct conclusions; and to respond in ways that adhere to the gameworld's norms about the nature of players, how they should be socially linked, and what symbolic actions are appropriate. In MMOGs such as Second Life and World of Warcraft new players must master not only scores of keyboard commands and game rules, but also—as Poole (1996) suggested in his theory of adaptive structuration—the tacit social norms that evolve in any human grouping with regard to interaction, morality, communication, and power distribution. To unconsciously and effortlessly navigate these norms, cultures develop what Nishida (2005) has identified as eight primary social interaction (PSI) schemas whose acquisition is necessary for successful cross-cultural adaptation.

In contrast to Quinn and Holland (1987), who proposed only proposition-schemas and image-schemas because of their chief interest in cognitive function, Nishida (2005) is concerned with the ways cultural schemas drive social behavior. Thus her eight PSI schemas (405-406)

are: fact-and-concept schemas ("pieces of general information about facts"); person schemas ("knowledge about different types of people"); self schemas ("how [people] sees themselves and how others see them"); role schemas ("knowledge about social roles that denote sets of behaviors"); context schemas ("the situations and appropriate settings of behavioral parameters"); procedure schemas ("the appropriate sequence of events in common situations"); strategy schemas ("knowledge about problem-solving"); and emotion schemas ("information about affect . . . that is accessed when other schemas are activated"). Nishida next describes a five-step process in which cultural schemas generate behaviors. In a given situation a person considers what context schema may apply and what goal that schema suggests, and then chooses a goal to pursue through appropriate strategy schemas and procedure schemas, and finally applies the procedure schemas (407).

But how does this process work in a context of cross-cultural adaptation when a sojourner may lack the PSI schemas of the host culture? Nishida (2005) proposed ten axioms (409-412). In brief, the first five axioms outline the role of schema acquisition in sojourner adaptation: repetition of schema-based behaviors stores them in long-term memory; failure to recognize culturally appropriate behaviors stems mainly from not knowing the host culture's PSI schemas; acquisition of these schemas is necessary for adaptation; cultural schemas are interrelated so that a change in one schema changes all the others; and knowledge of these interrelationships is also necessary for adaptation.

The next five axioms set forth the functioning of schemas and hold to the presumption that "Once a cultural schema is developed, information tends to be processed through the schema" (Nishida 2005:410), but individuals can choose to focus instead on actual data when the information is personally important or when they lack the PSI schemas. In brief: People can, depending on their situations or motivations, use either schema- or data-driven processing; cultural information tends to be processed schematically, while the processing of ambiguous information may be data-driven or schematic; sojourners are more likely to employ data-driven processing; novel situations cause cognitive uncertainty and anxiety; and sojourners proceed through stages of self-regulation ("using their native schemas by gradually modifying them") and self-direction ("reorganiz[ing] their native-culture schemas or . . . generat[ing] host-culture schemas").

Applied to sojourners in MMOG cultures, Nishida's cultural schema theory of cross-cultural adaptation might predict that new players could at first blunder—for example, "pull a Leeroy" (i.e., act without group consent) in World of Warcraft parlance, or innocently remain a shunned "Girl/Boy Next Door" avatar (i.e., fail to customize his/her wardrobe) in Second Life—through their lack of knowledge regarding the host-culture PSI schemas. As newcomers strives to adapt, they may encounter novel situations—the challenge to a "PvP" (player-versus-player) duel in World of Warcraft or an offer of virtual sex in Second Life—that cause cognitive uncertainty and anxiety. Other information may be more ambiguous. Either way, new players struggle with this information, at first by trying to fit it into their own real-life cultural schemas and then by reorganizing their native schemas. The effort needed to consciously think about gamelife, rather than unconsciously react to its encounters, is frustrating and time-consuming. But in time, the PSI schemas of the MMOG are learned, repeated, and become internalized and effortless. Then game interactions are processed schematically. The player has culturally adapted and understands how all the schemas of the gameworld are interrelated. Only when the culturally adapted player decides to attempt a

supreme defining experience—perhaps battling the dragon Onyxia in World of Warcraft or taking a monogamous partner in Second Life—will information about these momentous personal events be processed in a data-driven manner.

Thus, if culture is regarded as the organization of shared knowledge then MMOG worlds such as World of Warcraft and Second Life constitute real cultures—for they manifest distinctive organizations of shared knowledge into schematic cognitive models that represent socially significant group phenomena, construct meaning for players, and exert directive (but not determinative) force on players' behaviors.

Communication and Acculturation

But if Nishida's theory outlines the importance of cognitively mastering cultural schemas in adapting to a new host culture, how do newcomers employ communication to achieve acculturation? Here a number of intercultural communication theories are helpful. Ellingsworth (1983) noted that at least some degree of cultural variability is implicated in all communication if only because all individuals are different. Also innate to the human condition, he asserted, is the fact that the settings of any "purpose-related encounters" inherently favor one participant over another and thus burden the disfavored participant to communicatively adapt (202). Adaptation facilitates task completion, even as repeated adaptations change cultural beliefs.

The interactive acculturation model (IAM) developed by Bourhis et al. (1997) considers the "orientations of both the host majority and immigrant groups" (369). The IAM builds on a model developed by Berry (1980, 1990) that asks: Do immigrants want to maintain their native identities? Do they want good relations with their hosts? A yes/yes answer is defined as an "integration" orientation; no/yes as an "assimilation" orientation; yes/no as a "separation" orientation; and no/no as a "marginal" orientation. Then Bourhis et al. (1997) also ask of hosts: "Do you find it acceptable that immigrants maintain their cultural heritage? Do you accept that immigrants adapt to the culture of your host culture?" (380). Here a yes/yes answer is also termed an "integration" orientation and yes/no as an "assimilation" orientation, while no/yes is a "segregation" orientation and no/no is an "exclusion" (or "individualism") orientation. Based on immigrant and host responses, the IAM predicts whether relations will be "consensual," "problematic," or "conflictual." Consensual relations are predicted "when both host community members and immigrant group members share either the integration, assimilation, or individualism acculturation orientations" (383).

According to McGuire and McDermott (1988), newcomer adaptation or assimilation is not a permanent outcome. Even as Ellingsworth inferred cultural variability in all communication simply because all people are different, McGuire and McDermott observe that all individuals—no matter how well assimilated into a society—will at times deviate from cultural norms. For that reason, integration is a continual process of positive and negative reinforcement carried on via communication, such that "individuals (or groups) have achieved the assimilation state when their perceptions are receiving positive reinforcement from others' communications" and "an individual conforms to expected norms" (93). This perspective leads McGuire and McDermott to emphasize the three states of assimilation, deviance, and alienation. Immigrants who are not deviant, or who communicate in assimilative ways, are encouraged by their hosts—who in turn respond with assimilative communication. But

immigrants who are deviant receive "neglectful" communication from their hosts in the form or negative messages or silence. Immigrants' response to neglectful communication can be feelings of alienation that, in time, may evoke hostility.

Smith (1999) brings to the question of immigrant acculturation the aspect of networking. Acculturation does not occur in a vacuum but, rather, in a context where newcomers may also retain some connections with their native cultures. Thus, Smith advances seven propositions: Immigrants tend to link themselves with persons of like identity. Their social networking is therefore influenced by their native predispositions. But immigrants are more likely to acculturate as more host nationals enter their networks. This initiates a process that changes their social networks, a process that may be accelerated or slowed according to their location and social class. Immigrants who maintain highly dense social networks will acculturate more slowly. By contrast, those whose networks are less dense will more readily form more intercultural relationships.

What might the abovementioned theories suggest about the communication strategies that MMOG novices might employ to achieve acculturation into a gameworld? Ellingsworth's theory might predict that newcomers to a massively multiplayer gameworld would sense that they are at a communicative disadvantage and, to facilitate task completion, be burdened to adapt. The Interactive Acculturation Model of Bourhis et al. might predict that, given the assumption that new players bring an "integration" (or in addictive cases, "assimilation") orientation to the game, their successful acculturation depends on whether the game design and other players are receptive to "newbs." If the interface is especially daunting or if veteran players are cliquish and can't be bothered with novices, then relations may break down. Klastrup (2008) records the story of a World of Warcraft newbie who was mocked and then attacked by a group of experienced players from a rival race. Looking back on this defining introductory experience, the player later explained,

> I died. I felt awful; that I must be horrible playing this game. . . . Sweet, sweet vengeance. It is because of this experience at the beginning of the game that I now go out of my way to kill [the other race] for honor. Currently 2400 kills of the enemy . . . That one death at the start changed my whole playing experience from Player versus Environment [i.e., battling computer-generated monsters] to Player vs Player [i.e., dueling other players to the death]. (158)

Arguably, a player who has logged more than two thousand gratuitous kills for vengeance has not been successfully acculturated. But in World of Warcraft culture, easily the best-known case of what McGuire and McDermott call "deviance" is the (perhaps apocryphal) tale of "pulling a Leeroy." In a widely popular YouTube video, a large group of raiders are seen exhaustively planning a quest to the last detail, when Leeroy tires of their seemingly endless talk and charges alone into a den of enemies. Once provoked, the enemies' response cannot be stopped and the unprepared raiders are all "wiped" (killed) due to Leeroy's precipitate action. The video offers World of Warcraft players a cautionary social drama that provides cultural resources to aid viewers in framing their own identities and encounters. The lesson: Do not deviate from accepted norms for otherwise, as McGuire and McDermott might have it, "newbs" risk neglectful communication from veteran gamers. And finally, Smith's thesis suggests that MMOG newcomers who maintain dense social networks outside the gameworld may acculturate more slowly or not at all to the online community. On the other hand,

novices whose "real world" cultural ties and identities are less dense may find more success in forming new associations in the gameworld.

Applying Kim's Theory to MMOG Newcomers

Through more than two decades of research, Kim (see especially 1979, 1988, 1995, 2001, 2005) has attempted to fashion a general theory of cross-cultural adaptation. Instead of treating such adaptation as a variable—whether it happens, yes or no—her theory posits that cross-cultural adaptation is a natural and universal phenomenon of the human condition. As long as humans are in society, adaptation to the new and unfamiliar will occur. Human behavior is an open rather than a closed system, so that "adaptation manifests the natural human instinct to struggle for an internal equilibrium in the face of adversarial environmental conditions" (Kim 2005:378). Cross-cultural adaptation is not an "outcome" of a given favorable condition but, instead, constitutes "the entirety of the evolutionary process an individual undergoes vis-à-vis a new and unfamiliar environment" and therefore must "be understood in terms of a dynamic interplay of the person and the environment" (379). Having been placed at this intersection, adaptation is thus "a process that occurs in and through communication activities" and cannot take place without them.

Kim (2005) defines cross-cultural adaptation not as a linear-causal process but as "the entirety of the phenomenon of individuals who, upon relocating to an unfamiliar sociocultural environment, strive to establish and maintain a relatively stable, reciprocal, and functional relationship with the environment" (380). Such individuals are termed "strangers" in Kim's parlance and encompass immigrants, refugees, sojourners, and members of ethnic groups within a society who traverse differing subcultures. Strangers enter a new culture already adapted or "enculturated" to their original culture. Cross-cultural adaptation therefore involves both deculturation as old habits are shed and acculturation as new ones are gained. Though theoretically the process moves toward assimilation, or maximum convergence with the host culture, individuals' adaptation levels may vary widely. What drives the process is a dialectic of stress-adaptation-growth. Change and disequilibrium bring stress; stress prompts adaptation to establish a new equilibrium; and achieving the new state constitutes growth. At first the disparities between disequilibrium and equilibrium—between stress and adaptation— are great. But like an upward spiral whose curves grow progressively tighter, there is growth over time.

Growth occurs as strangers increase their "host communication competence" or their ability to effectively decode messages received and encode messages sent. Further, this competence has cognitive, affective, and operational aspects. Strangers utilize the resources of host interpersonal communication to obtain needed insights and feedback, and utilize host mass communication to vicariously participate in the host culture at large. They may continue to communicate socially with members of their original cultures who also live in the host society and thereby receive vital aid. But extended reliance on these social networks will ultimately slow cross-cultural adaptation.

Other factors that bear on adaptation are the degrees of host receptivity to strangers, host conformity pressures, and ethnic group strength for influencing the surrounding host community. Finally, strangers' predispositions for coping with new environments are seen in their preparedness for the experience, their individual similarities to the markers that

distinguish their native group, and their individual compatibilities with the markers of the host group. Individual personality traits and general openness to new information likewise play their parts in the willingness to endure change and overcome stress. At last, the stranger may achieve increased "functional fitness" in the new environment, accompanied by increased psychological health and an emergent intercultural identity. Thus, the two basic questions that Kim's (2005) theory attempts to explain are: "What is the essential nature of the adaptation process individual settlers undergo over time?" and "Why are some settlers more successful than others in attaining a level of psychosocial fitness in the host environment?" (381).

Applied to strangers who enter a MMOG culture, Kim's theory suggests that the acculturation of "newbs" involves a dynamic interplay between novice gamers and the gameworld. When newcomers arrive into the virtual environment, they bring with them the enculturated habits of their real worlds—perhaps a Western orientation toward individualistic achievement or an Eastern emphasis on group harmony. Assimilation into the gameworld requires some deculturation: for example, World of Warcraft players from individualistic cultures might struggle with being socialized into team play, while novices from collectivistic cultures might at first be intimidated by PvP combat. Acculturation to gameworld norms likewise occurs as novices experience stress with new encounters, which compel them to greater mastery of the gameworld's linguistic resources. In time, adaptation increases and growth occurs as novices communicate with veteran players and consult in-game helps and off-game discussion boards. (Fans of World of Warcraft, for example, can purchase any number of independently printed game guides, join numerous online communities dedicated to helping players complete their quests, and download homemade machinimas that visually document exemplary combat strategies.) Functional fitness and an emergent gameworld identity are the result.

Kim's description of stress-adaptation-growth is perhaps similar to Csikszentmihalyi's (1990) concept of "flow." This state of absorption within a given activity is dialectical: since individuals alternate between boredom and anxiety then, respectively, ever greater challenges must be tackled or higher skills progressively attained to keep persons within their own "flow channels." But Kim's process of stress-adaptation-growth has one major difference: communication is the driving force behind the dialectic. Novices' individual openness to new experiences, as well as veteran gamers' openness to new players, are both factors that may encourage or retard growth within the gameworld. But because acculturation into a new environment is inherently a social activity, new gamers' assimilation into the cultures of their chosen MMOGs is proportional to their ability to communicate and receive feedback.

The importance of communication in building what Kim calls an emergent intercultural identity is supported by numerous theories. Collier and Thomas (1988) noted how individuals "negotiate multiple identities in discourse" (107), an observation on which Cupach and Imahori (1993) then founded their Indentity Management Theory. Among individuals' multiple identities, suggested Cupach and Imahori, cultural and relational identities are the central components of the "face" that one person presents to another. In intercultural encounters, the interactants initially manage face by resort to stereotyping. But stereotypes threaten face because they externally impose identity. Thus competent communicators engage in a threefold dialectic of discovering shared traits, agreeing on a common relational ground despite their distinct cultural identities and then, finally, renegotiating their cultural identities.

Similarly, Ting-Toomey (1993) proposed that competent intercultural communications involve "the effective identity negotiation process between two interactants in a novel communication episode" (73). Her Identity Negotiation Theory posits that individuals must manage a natural dialectic tension between their feelings of security and of vulnerability, and between their desires for inclusion and for differentiation. How individuals manage these tensions will drive their motivation and resourcefulness in communicating with cultural Others.

Therefore, if the theories thus far described may be applied to newcomers in massively multiplayer online games, they would seem to predict that successful initiation of new players requires that certain communicative strategies must be encouraged through the design of the gameworld. Novices must employ repetition to internalize the gameworld's social interaction schemas. Situations constructed by the game must force novices to adapt communicatively and gain communication competence in order to complete tasks. Game design should encourage consensual networking between novices and veteran players so that newcomers have models for competent gameworld communication, assimilative communication is reinforced and deviant communication discouraged, and newcomers feel a sense of security and inclusion that will motivate them to negotiate gameworld identities.

Though the need for such communicative strategies may seem self-evident, it is clearly possible for game designs to frustrate such communications by new players. Game situations can be set up so that players cannot repeat actions but must either keep moving forward in a linear fashion according to the game's storyline, or go back to the start (as in Nintendo's Super Mario games of the 1980s). Task completion might be keyed to individual motor skills rather than group communication and networking skills (as in single-player shooter games). Rules can rig the game so that veteran players have no incentive, or are penalized, for cooperating with less-skilled newcomers who slow them down. By contrast, World of Warcraft and Second Life are perhaps among the most successful of the virtual worlds because their designers built in rules and situations that foster the development of culturally competent communication.

Does research on videogames support the prediction that communication is integral for new-player initiation and satisfaction? And if so, does this research identify the same communicative behaviors predicted by theories of cross-cultural adaptation?

Four Perspectives on Game Research

Many scholars of game studies identify themselves as either narratologists who view videogames as texts whose stories can be read and critiqued, or as ludologists whose primary focus is the dynamics of play. Certainly, narratives can shed much light on the cultures which produce them. And as the pioneering Dutch ludologist Johan Huizinga (1955) pointed out, play and culture are linked. However, the present study takes an interest not in videogames as artifacts of realworld culture but in gameworlds as cultures of their own, so that narratology and ludology do not factor into the analysis.

A third perspective is found in the extensive literature on the media effects of videogames. Most research in the media-effects tradition is concerned with possible links between violent gameplay and subsequent aggressive behavior. Again, this literature is of less importance to

the present study because effects research takes a behaviorist view of videogames, whereas the current inquiry approaches gameworlds as social constructions. Yet it may be noted that effects research gives support to the relatively recent concept of "cultural consonance" or the notion, described by Dressler (2001), that "higher cultural consonance will be associated with better physiological and psychological adaptation, as measured by lower blood pressure, a more favorable pattern of serum lipids, and fewer symptoms of psychological distress" (1-2). A significant number of studies document how video gameplay can affect players' physiology (e.g., Ballard, Hamby, Panee & Nivens 2006; Ivory & Kalyanaraman 2007; Persky & Blascovich 2007; Ravaja, Saari, Salminen, Laarni & Kallinen 2006; Weber, Ritterfeld & Mathial 2006) and psychology (e.g., Chicchirillo & Cory-Assad 2005; Cory & Chicchirillo 2007; Eastin & Griffiths 2006; Farrar & Krcmar 2006; Williams & Skoric 2005). These studies find that effects are not uniform but vary according to player, game content, and platform. Presumably, then, novice players who successfully sojourn in a particular gameworld—who become consonant with its unique culture—may experience a heightened sense of physiological and psychological adaptation.

Narratology, ludology, and media effects are established perspectives. Only more recently, with the rise of MMOGs (and, more generally, with growing interest in computer-mediated communication), has a fourth perspective on game studies emerged through research on the social aspects of gameworlds. Do these studies confirm the suggestion that the initiation of novice players instantiates dynamics similar to the cross-cultural adaptations of sojourners? And if so, does the research indicate that communication is an indispensable strategy for novices to adjust, adapt, and negotiate new gameworld identities? In fact, game research does lend support to this proposition. Yet such a communication-based perspective on game studies is, as Lucas and Sherry (2004) admitted, a fairly recent addition to the literature:

> Although it has not produced nearly as much scholarship in this [gaming] area as the discipline of psychology, the communication discipline is uniquely positioned to offer new insight that can further our collective understanding of video game playing . . . The bulk of video game research that has emerged from the communication discipline has taken a mass communication perspective . . . However, examining the communicative aspects of video game playing solely from [this] perspective obscures potentially important contributions, namely, the contributions that can be made by examining the interpersonal dynamics among players during game play and in daily discourse . . . Although not widely examined as such, video game play is clearly a forum for interpersonal communication [through game interaction, game networks, and feelings toward non-player characters]. (500-501)

Building on the longstanding tradition of uses and gratification theory, which has for decades been applied to media consumption, Sherry and Lucas (2003) developed a scale to describe six primary reasons why people play videogames: competition, challenge, social interaction, diversion, fantasy, or arousal. The specific mix of uses and gratifications that motivate individual gamers, however, is driven by the dynamic interplay between each player's basic needs, individual traits, and social influences.

(Those versed in game studies will ask how Sherry and Lucas's six uses and gratification approach maps against Bartle's [1996] well-known gamer typology of Achievers, Socializers,

Explorers, and Killers. Though this typology is often cited, Bartle proposed his four types without benefit of statistical research, as Yee has pointed out. Yee conducted a survey of online gamers [2005] and, statistically, found five motivations: achievement, relationship, manipulation, immersion, and escapism [2006]. By adding qualitative analysis of the data, Yee devised a ten-factor model for player motivation [2007]. The ten factors are grouped into three structures: the *Achievement* structure encompasses advancement, analysis of game mechanics, and competition; *Social* encompasses casual communication, supportive relationships, and teamwork; and *Immersion* encompasses geographical exploration, role-playing, avatar customization, and escapism.)

Thus, we see that, as Kim's theory of cross-cultural adaptation predicts, when novice players enter the culture of a new gameworld they bring with them the influences and values of their original culture. That is, they are enculturated or adapted to their "real" worlds. In a survey of Second Life residents, Diehl and Prins (2008:110) found that 76 percent chose avatars that look at least "somewhat similar" to themselves and 72 percent chose an avatar of the same race. Eastin (2006) found indications that "playing as a female against a male opponent increases aggressive thoughts . . . [and] playing as a male against a female opponent consistently and significantly decreases aggressive thoughts" (351), so that players were instantiating learned behavior from real-world culture. Green and McNeese (2008) have shown a correlation between videogame usage and not only gender (see also Cassell & Jenkins 2000; Lucas & Sherry 2004; Royce, Lee, Undrahbuyan, Hopson & Consalvo 2007; Schott & Horrell 2000; Taylor 2003; Thornham 2008) but also race and ethnicity. Clearly, just as consumers of print, radio, television and other mass media come from a wide variety of backgrounds and motivations, so do videogame players. The opposite assertion—that videogame players are self-selected by a shared predisposition for vicarious violence or competition—is rebutted by Lachlan and Maloney's (2008) finding that any "link between personality and content varies across different games" (297) and may be "almost entirely a product of the specific conditions, parameters, and rules of each individual game" (299). They characterized "the relationship between personality and content [as] one that will require a great deal of disentanglement" since, in their study, "the link between innate characteristics and specific content outcomes is almost entirely inconsistent" (299).

Communication Strategies of MMOG Players

If MMOG players have diverse backgrounds and motivations, then assimilation into the culture of the MMOG is—following Kim's theory—a process of deculturation to the realworld and acculturation to the gameworld. Further, the process is carried out through communication as novices cope with the stress of new encounters, adapt to the new culture, and grow in their cultural competence. As Nishida observed, newcomers must engage in data-driven message processing (which is frustrating) until they learn the culture's primary social interaction schemas (which make processing effortless). Thus as Ellingsworth asserted, cultural adaptation facilitates task completion, until repeated successful adaptation changes cultural beliefs. Yet the challenge of applying this dynamic to gameworlds is suggested by Peña and Hancock (2006) who studied socioemotional and task-completion communication among MMOG players and noted,

> Although our understanding of mediated communication processes in instrumental
> and organizational contexts is substantial, we know much less about these

> processes in social and recreational contexts. . . . such as playing video games. A number of research communities have highlighted the need for more research examining communication in recreational and playful contexts. Some research has begun to examine recreational social interaction on the Internet. . . . Although these studies have begun the investigation of recreational CMC [computer-mediated communication] contexts, they have not yet addressed the nature of the communication processes that take place in these settings. (93)

The authors began by describing the two theories that scholars most often employ to analyze CMC, namely the cues-filtered-out (CFO; e.g., see Culnan & Markus 1987) and the social information processing (SIP; Walther 1992, 1996; Walther & Burgoon 1992) theories. The former focuses on the absence or diminishment of nonverbal and social cues in CMC; the latter holds that interlocutors can devise ways to test their impressions of one another and to encode social meanings, thus reducing uncertainty and, given sufficient time, enabling true interpersonal communication. Peña and Hancock then surmised that, when applied to online games or "recreational CMC," the CFO approach would predict that players will engage in more task-oriented communication than socioemotional, and that their socioemotional communication will be more often negative than positive. By contrast, SIP theory would predict that online gamers will engage in more socioemotional communication than task-oriented, and their socioemotional communication will be more positive than negative. SIP theory would also predict a correlation between game experience and the amount of socioemotional communication, as well as the use of communication conventions such as game jargon, emoticons, and abbreviations.

After collecting 4,402 textual chat messages over a two-week period from 59 participants in the online game *Jedi Knight II: Jedi Outcast,* the researchers coded the messages as being either socioemotional or task-oriented and classified gamers as highly (6 players), moderately (25), or low (28) experienced. As it happened, the SIP predictions were confirmed and the CFO disconfirmed. Gamers exchanged "significantly" more socioemotional than task-oriented communications and nearly three times more positive messages than negative. Also as SIP theory predicted, more experienced players used more communication conventions and included such conventions—game jargon, emoticons, abbreviations—in about half of their messages.

Perhaps then, as Nishida's theory of cross-cultural adaptation suggests, when MMOG players become assimilated into the gameworld they learn that the most efficient way to facilitate task completion is through invocation of tacitly shared social interaction schemas rather than by making explicit requests or detailed instructions. If so, novices can only enhance their game satisfaction by moving beyond data-driven cognition as quickly as possible. "[T]he most experienced participants," Peña and Hancock (2006) observed, "tended to use specialized conventions to express themselves more frequently than less-experienced participants, which indicates that experience in online video games plays an important role in the expression of interpersonal communication" and that "the acquisition of experience . . . plays a significant role in message encoding" (105-106).

Only on the remaining prediction—that more experienced players would engage in a greater amount of communication—were the researchers surprised by the data. First, they found no statistical difference in the amount of messages exchanged by more or less experienced

players. But, second, they discovered a strong correlation between experience and message content. More experienced players shared the most positive socioemotional communications and less experienced players the most negative. Why? Peña and Hancock (2006) speculated,

> First, highly experienced participants . . . may have had a greater interest in ensuring that their communicative behavior was positive to maintain cohesion and satisfaction within the virtual group. Second, because of their high level of involvement in the game and their virtual group, highly experienced participants may have anticipated future interactions with other participants to a greater degree than did the less experienced ones. When individuals expect future interaction they tend to engage in more positive forms of relational communication. (105)

These observations are, for purposes of the present study, significant. At first, however, they may seem counterintuitive. Would not insecure and vulnerable "newbies" perceive the most pressure to "go along and get along"? And would not veteran players, secure in their exalted status, feel the most freedom to be plainspoken? But recall Kim's prediction that strangers acculturate to a new environment through a trial-and-error process of stress, adaptation, and growth. In the Peña and Hancock (2006) study, negative messages—which came disproportionately from inexperienced players—mostly concerned disagreements "when participants behaved impolitely or broke a social rule" or were expressed to release tensions "when [game] outcomes failed to match the participants' expectations" (103). By contrast, the positive socioemotional messages of experienced players are ascribed to their sense of group identity and—this is significant—their ability to anticipate future interactions. Their communications, then, are driven by knowledge of the gameworld's primary social interaction schemas.

Interestingly, when Peña and Hancock (2006) compared their results to earlier studies of instrumental CMC, they discovered that recreational CMC is noticeably different: "[W]hen the purpose of the interaction is instrumental, regardless of the medium, communication consists of a higher volume of task-oriented than socioemotional messages. In contrast, when the purpose of the interaction is recreational, communication consists of more socioemotional messages than task-oriented messages" (104). A possible corollary to this maxim is that recreational CMC—primarily carried on via the medium of online games—generates more socioemotional messages because gameworlds constitute actual cultures in which, by definition, information is most efficiently conveyed through tacit schemas.

Recall again that, according to Kim, acculturation into a new environment necessarily entails deculturation of old influences. In this connection, also recall Smith's and Kim's maxim that acculturation is slowed when immigrants maintain dense social networks of past associations, but is accelerated when these networks are less dense and thus allow greater inclusion of persons from the host culture. Williams (2006) discovered this dynamic at work in a panel study of the immersive online game *Asheron's Call 2*:

> Although the game led to an improved global outlook and some online community improvements, some kinds of existing friendships eroded and the most social players became more insular. Family interactions were unaffected. . . . [But a] decline in face-to-face interactions was detected and [may be] described as "cocooning" (651).

Williams (2006) divided participants into "social" players who engaged in collaborative team play for at least half of their time spent in the game, and "asocial" players who favored solo gaming and engaged in team play less than half of the time. Among both groups the study found an amplification effect: "Those players who were more outgoing and less lonely to start with were the ones who played more often in groups. The less outgoing and lonelier players played alone" (665). This echoes Kim's assertion that individual predispositions and openness to change are contributing factors to cross-cultural adaptation. Yet germane to Smith's contention that immigrants' adaptations are impacted by the density of their preexisting social networks, Williams documented how "social" gamers

> had greater losses in off-line social support and were less interested in physical meetings with friends and relatives and [had] lower gains in age-based trust, but experienced gains in trust and having others vouch for them online. ... [T]he overall pattern simply suggests that these players began to place more value on their in-game social networks at the expense of preexisting relationships. They also apparently felt increases in group efficacy. This affirms the displacement hypothesis . . . and also suggests that this group began to develop a degree of out-group antagonism that often springs from insularity. This coin has two sides, though. If online communities are to have any value, their members must place some effort and emotional investment in them, which is what appears to have happened here (if at the expense of off-line relationships). (Williams 2006:665)

By contrast, asocial players "simply experienced the general disconnections of play but without any gains in group affinity or any real increased sense of insularity and out-group antagonism," so that Williams (2006) was led to suggest that "the more social players will experience the tentative beginnings of new social formations whereas the less social players will simply feel more left out than they were before" (665). This finding echoes McGuire and McDermott's conception, cited above, of immigrant assimilation, deviance, and alienation. Newcomers who communicate in assimilative ways will be encouraged by their hosts, who in turn will respond with assimilative communication. On the other hand, deviant or asocial newcomers will be greeted neglectfully with negative messages or silence, which may provoke feelings of alienation. In a subsequent study of World of Warcraft guilds, Williams (2007) found that the game's recent addition of voice communication produced "interaction effects [that] suggest significantly higher levels of relationship strength and trust between voice-based guildmates when compared" over time to other guilds that employed only text messaging (439).

This is a striking demonstration of the role of communication in building in-game cultures and supports Eastin's (2007) contention that "Media theory has focused on individual reactions to mediated content; however, the expansion to multiuser environments suggests that researchers should consider group processes" (453). Or as Coleman and Dyer-Witheford (2007) pointed out, "While developers program the initial parameters of such games, the interaction of the players provides the substance of their virtual worlds, creating behavior patterns, social rules and collective institutions" (944). Similarly, Diehl and Prins (2008) describe Second Life as a Cultural Historical Activity System (see Engestrom 1999:31)—with rules, residents, communities, divisions of labor, objectives, and mediating artifacts—that "catalyzes the discovery and development of new identities in a virtual world" and may "create new cultures that transform First Life in ways we have yet to imagine" (Diehl & Prins

2008:116). In this virtual environment, they argue, "we view cultural identities not as fixed entitities, but as something which people actively mobilize through communication" (108). Their findings resonate with those of Cupach and Imahori and Ting-Toomey, namely that identity is managed and negotiated in cross-cultural encounters through communication.

Conclusion

Intercultural communication theories, and particularly theories regarding sojourners' cross-cultural adaptation to new environments, appear to offer useful frameworks for analyzing phenomena observed in research on massively multiplayer online games. Novice gamers cannot function effectively within the society of a particular gameworld until, as Nishida (1999, 2005) predicted, they internalize the schemas required to swiftly process cultural information and accurately fill in the gaps. They gain communication competence within the culture of the gameworld through a trial-and-error dialectic of stress, adaptation and growth, as Kim (2001, 2005) predicted. In so doing, they must shed realworld cultural habits and take on the habits of the gameworld culture, a process that may be retarded if gamers maintain dense realworld social networks and accelerated if those networks are less dense (Kim 2005; Smith 1999). Feeling initially at a disadvantage in completing desired tasks, they are motivated to increase their communication competence (Ellingsworth 1983, 1988), though their motivation is also a function of veteran gamers' willingness to accept them into the gameworld culture (Bourhis et al. 1997) and respond positively to newcomers' attempts at assimilative communication (McGuire & McDermott 1988).

All of these behaviors have been reported in the game studies literature: the novice's initial feeling of lostness at not knowing a gameworld's tacit community standards and cultural schemas (White 2008); the role of talk in facilitating integration (Williams 2007) and the trial-and-error communication of newcomers' who experience stress and then adapt and grow (Peña & Hancock 2006); the initial tendency of newcomers to import their realworld cultures into the game (Diehl & Prins 2008; Eastin 2006; Green & McNeese 2008), as well as the tendency of gamers with dense realworld social networks to form new gameworld networks more slowly (Williams 2006); and the effect of veteran gamers' communication with "newbies" on the latter's adaptation to the gameworld culture (Peña & Hancock 2006).

One perspective for studying the problem of intercultural communication as it applies to massively multiplayer online games would be to study encounters between persons of different cultures who meet on the virtual ground of the game. Future research along this line could be valuable. By contrast, the present study takes the position that the primary problem of intercultural communication as it applies to MMOGs is encounters between new players who bring to a game their realworld cultural orientations and experienced players who have internalized the social interaction schemas required to function in the culture of that gameworld.

By studying MMOGs, however, communication scholars of both perspectives can gain access to a virtual laboratory of developing cultures. For their part, game researchers who employ the tools of intercultural communication theories can gain a fruitful framework for interpreting the dynamics they see on display in online games. And game designers can gain new insights on the indispensable role of communication in acculturating new players and thus learn how to enhance positive and satisfying interaction through designs that facilitate

the kinds of communication that novices need for adaptation to the gameworld. As MMOG membership climbs into the tens of millions and attracts participants from around the world, intercultural contacts among players will increase. A better understanding of how those encounters will be shaped by in-game communication can increase the potential for videogames to enhance global intercultural communication literacy.

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