The Socioalgorithmics of Race: Sorting it Out in Jihad Worlds

LISA NAKAMURA

"Interest in profiling is at an all-time high in the United States—in films, in books, and on television news programs, but the practice remains surprisingly abstract." (Elmer, 2004, p. 75)

"Reynard is a seedling effort to study the emerging phenomenon of social (particularly terrorist) dynamics in virtual worlds and large-scale online games and their implications for the Intelligence Community. The cultural and behavioral norms of virtual worlds and gaming are generally unstudied. Therefore, Reynard will seek to identify the emerging social, behavioral, and cultural norms in virtual worlds and gaming environments. The project would then apply the lessons learned to determine the feasibility of automatically detecting suspicious behavior and actions in the virtual world" (Data Mining Report (unclassified), 2008).

As Greg Elmer wrote in 2004, the topic of profiling is both irresistibly compelling yet usually understood in only the most broad and vague terms; it is indeed "surprisingly abstract." There is no shortage of media representations of profiling, and these are often extremely gendered ones. On the one hand, profiling implies feminine intuition; the tradition of female profilers in media texts starts with Clarice Starling of the film The Silence of the Lambs and continues today in television programs like The Profiler, Bones, and Medium. On the other, the spectacular appearance of sophisticated information processing machines associated with such narratives signals a move towards a different register of emotion, one displaced onto artifacts of and for identification. Emotions are pressed into service as tools for profiling (i.e."I had a funny feeling about that man"); people who are profiled feel strong emotions about being watched and classified, populations endorse yet fear profiling as a means of protecting their precarious sense of security and safety, and digital technologies are pressed into service to bear the weight of this psychic burden. Profiling also carries the emotional charge of social inequality—to be "profiled" is to be identified as a criminal in advance of having committed a crime. Computers "simulate surveillance in the sense that they precede and redouble the means of observation. Computer
profiling...is understood well not just as a technology of surveillance, but as a kind of surveillance in advance of surveillance, a technology of 'observation before the fact'” (Bogard, 1996, p. 27). When the job of profiling is given to a digital machine, no human is needed to do the watching, or even to do the feeling. Instead, surveillance has become a digital, algorithmic process.

The topic of surveillance has been amply addressed as a thematic focus and a set of stylistic concerns within filmic media texts, as summarized in Gates and Magnet's excellent introduction to this book. In contrast, surveillance practices such as fingerprinting, facial recognition systems, Closed Circuit Television (CCTV), reality television, cloud computing, and border patrolling have not been viewed as media practices per se. For to view them this way would mean acknowledging their status as media production practices and texts rather than as more or less accurate tools for getting at the truth about bodies, identity and deviance. The chapters in the book that you hold in your hands (or perhaps read on a screen) make a compelling case for viewing surveillance as a medium, like television, film, or the Internet, with its own particular distinctive history, politics, and visual culture. As the chapters in this book demonstrate through multiple examples and methods, surveillance is a signifying system that produces a social body, rather than straightforwardly reflects it. Fingerprint scans, retinal scans, facial recognition software images, and CCTV images are digitally produced visualizations, virtual spectacles or surfaces that represent a compellingly limited, easily manipulated identity or profile. Until now, new surveillance technologies have predominantly been described in the language of scientific discourse rather than in the language of media studies. However, even this scientific discourse is shot through with mediatic discourse referring to image quality and the acceptability of the body as a digital artifact. Heather Murray’s excellent chapter makes this link explicit in her account of contemporary biometric science's handling of “abused” and illegible hands, biometrically “problematic” dark eyes, and Asian, female, and elderly bodies that are too “soft and fragile...lacking definition” to scan properly (Murray, 2008). Understanding surveillance as a visual digital media practice, industry, and technology that creates socially unequal bodies means having to understand it like other digital media representations, as “depthless images.” As Andrew Darley writes, “the spectator of visual digital culture is positioned first and foremost as a seeker after unbridled visual delight and corporeal excitation” (Darley, 2000, p. 169). Digital images do not necessarily “lie” more than analog ones (see Mitchell, 1994). However, they create an articulated version of the world that lacks “symbolic depth,” and as Darley notes, they operate on the viewer in a primal fashion that belies their supposedly neutral scientific status.
Digital media technologies have had a profound effect on the ways that race is performed, experienced, and defined. Early journalistic and academic accounts of the Internet stressed its utopian, democratic potential for erasing (or at least hiding) race and creating a “level playing field,” celebrating its abilities as an anonymizing and thus egalitarian technology. Commercial and industrial narratives about the Internet created during the 1990s portrayed it in the most utopian terms, exemplified by MCI’s Anthem and Microsoft’s “where do you want to go today” campaign. These advertisements posited a radically democratic world where physical differences would be erased, leaving “only minds.” Radical anonymity was the selling point of the Internet in those early adoption years (See Nakamura, 2002).

Internet users were prone to view their experiences online as post-racial, finding that they could “pass” by creating avatars that either were or weren’t taken for normative white/male, or could simply omit any mention of race and accomplish the same thing. There was much at stake in avoiding appearances of profiling, particularly racial profiling, in the US at this time, and the Internet was identified as a technological solution to this key problem. The notion of “profiling” in the US acquired an especially nasty taint as several incidents of racial violence overlapped with the rise of the Internet as a popular technology, this all concurrent with the rise of neoliberal policies regarding media regulation and an officially “colorblind” Clinton presidency (Nakamura, 2007). The visual culture of surveillance in regards to race skewed towards the digital as a means of evening out social relations. The Internet’s ability to conceal the user’s body as the origin of communication was viewed as a curative to the problem of racial inequality—by rendering race invisible, it was thought, the “profile” or identity of the Internet users could omit race as a factor. Users could engage in social life without needing to bring race into the discourse, allowing us finally to all just get along. Of course, the varied and often conflictual nature of online interaction quickly demonstrated that racial passing and identity tourism were no solutions to the problem of racism.

It took another highly racialized act of violence—the events of 9/11—to transform the visual culture of digital identity in the US and elsewhere yet again, creating a craze for biometrics similar to the craze for photography that gripped the nineteenth century. While early proponents of the Internet as a racially equalizing technology had stressed its ability to hide bodies or create new “virtual” ones, after 9/11 political, technological, and cultural discourses emphasized the necessity of their radical revelation. The convention of the “reveal” taken from make-over reality television programmes showcased the new and improved version of the self, achieved
as the result of intense self-cultivation and improvement; so too did our identities require to be stripped bare through digital, mediated means in order to be whole, to prove authenticity and loyalty, and to repair the damage to the national psyche. Biometrics creates spectacular images of an idealized self-sameness verified by science; just as reality television’s therapeutics celebrate the “consistent self” (Dubrofsky, 2008).

Dubrofsky’s striking insight that only “self-sameness across disparate social spaces (such as the show and ‘real life’)” can read as legitimate self-transformation in the logic of reality television points out how this therapeutic ethos requires us to stand completely still in order to be read as moving forward. Self-sameness has replaced identity play as a therapeutic value in digital culture, buoyed by an increasingly biometric cultural turn. As the British slogan regarding CCTV goes, “if you have nothing to hide, you have nothing to fear.” The transformation of the Internet from an identity-constructing technology to an identity-confirming one has been remarked upon by New York Times journalist Clive Thompson, who writes “when cyberspace came along in the early 90s it was celebrated as a place where you could reinvent your identity—become someone new. ‘If anything, it’s constraining now,’ a teacher told me, ‘You can’t play with your identity if your audience is always checking up on you. I had a student who posted that she was downloading some Pearl Jam, and someone wrote on her wall, ‘oh, right, ha-ha—I know you, and you’re not into that.’ On the Internet today, everybody knows you’re a dog!”(Thompson, 2008).

The “therapeutics of the self” affirmed by social networking sites such as Facebook and MySpace require the constant tending and cultivating of the user profile, immaterial labor that must be performed under highly constricted, menu-driven conditions in front of an audience of witnesses. The myth of the “virtual world” as a space of identity re-invention was put to rest approximately ten years after its improbably utopian beginnings, just as the digitization of identity in real world, increasingly networked spaces such as airports, highways, malls and border stations continued apace to meet it. Populations learned to tolerate and accept previously unimaginable amounts and types of monitoring and searches—new conditions for new times—just as they had the “ambient intimacy” engendered by social networking sites and the Internet. The “work of being watched,” as elaborated in Mark Andrejevic’s groundbreaking work in the area of surveillance and media studies, has circulated freely between reality television and all forms of participatory digital media (Andrejevic, 2004). And as Lisa Parks and Simone Browne write, the act of airline travel has become inseparable from acts of monitoring (Parks, 2007; Browne, 2005).
The power of race as a social identifier is both amplified and reduced when it is turned into a data point in a digital profile. It becomes both more and less visible. This striving towards transparency that Rachel Hall identifies in her excellent chapter on the visual cultures of surveillance is accomplished by transforming the human body into both data and spectacle. Likewise, race becomes both visual phenomenon and invisible data, something to be both seen and processed. Race is a social algorithm in addition to and sometimes instead of a physiognomic or phenotypic feature, a form of genotypic media as well as phenotypic appearance. Race has been a spectacle from the beginning, constructed through technologically mediated means such as photography as well as through older forms such as minstrels and museum sideshows (Fusco & Wallis, 2003; Gilman, 1985). Race as a socioalgorithmic process produces spectacular effects—depthless images—in and through digital data as well as within spatial locations such as grocery stores, city streets, and airports. As a foundational piece of the story and origins of the digital profile, race functions as a field of information, or as Matthew Fuller describes it, an identity “fleck” of data within a database.

Fuller describes the role of race within automated profiling systems as follows: “An element, cluster, or concatenation of data, flecks of identity—a number, a sample, a document, racial categorization—are features that identify the bearer as belonging to particular scalar positions and relations” (Fuller & Malina, 2005, p. 148). These “flecks of identity” are the indispensible building blocks of computer assisted profiling, “standard objects...within databases [that serve] as a primary compositional element within surveillance systems” (Fuller & Malina, 2005, p. 148). Fuller and other scholars in the emerging discipline of software studies identify the database as the key cultural form of the computer age, one that replaces hierarchical narrative forms such as the novel and cinema with “collections of individual items, where every item has the same significance as any other” (Manovich, 2001, p. 194). Manovich writes that a database is “anything but a simple collection of items,” but is instead a “cultural form of its own” that presents a distinctive “model of what the world is like.” He thus calls for the creation of a “poetics, aesthetics, and ethics of this database” (Manovich, 2001, p. 195). The chapters in this book extend this project by developing a politics of the database.

Biometrics, the measurement of the human body and coding of the result as data, transforms the body into a digital media object. The construction and deployment of databases are part of a political project of identity formation and regulation—they augment without replacing the visual image as the medium of identification. Being “in the database,” be it in a no-fly list, a preferred shoppers club, or a “friends” list on a social networking service, results in differential social treatment that is nothing if not deeply politicized, in
ways that are less visible than they have ever been in their actual workings, yet more intensely visible in their effects (whose heart has not broken to see a toddler sobbing as her stroller is broken down and run through a scanner and her teddy bear confiscated and examined during a routine airport screening procedure?). The disavowal of agency rightly claimed by airport official parallels the “racism without racists” phenomenon noted by Bonilla-Silva and David Theo Goldberg (Goldberg, 2008; Bonilla-Silva, 2006). The decision as to which bodies must undergo which screening process is informed by both acts of seeing and acts of database usage and machinic data processing; it is both visible and invisible, with the latter tending towards the former in informationalized societies. As Fuller writes, “surveillance in the present context applies very little to acts of seeing. Surveillance is a socioalgorithmic process” (Fuller & Malina, 2005, p. 149).

As described by many of the authors in this book, the mediatization of the body characterizes life in informationalized societies, and it continues apace. Up until now, the bodies that users create to use in virtual worlds such as Linden Labs’ Second Life and Blizzard’s World of Warcraft have been more or less free of systematic forms of governmental surveillance or dataveillance. In her excellent chapter on border control and the economies of bodies, Simone Browne writes that “bordering is one of the key disciplinary practices of the nation-state, with classificatory identity/mobility documents playing an important role” (Browne, 2005). Until now, virtual worlds have been relatively free of these types of borders and documents permitting travel between virtual spaces within their worlds. While it is certainly not the case that entirely free movement is possible in either of these virtual worlds—Second Life allows space to be coded as private and World of Warcraft effectively locks content until users have acquired the requisite skills, abilities, and number of co-players to access them—these are algorithmic functions that do not involve knowledge of the user’s “true” identity, but rather of an avatar’s identity or player account characteristics. If airports and border checkpoints are spaces where users are sorted out based on their ability to provide the proper documents, until now virtual worlds have sorted users through other means, such as membership in social groups or “guilds,” choice of player class or race, payment type, or choice of computer server. The attraction of travel through beautifully detailed and richly ornamented virtual worlds are appealing enough to compel almost 11 million users to pay significant monthly or hourly fees to Blizzard, the owner of World of Warcraft. Linden Labs’ Second Life has produced a burgeoning economy that supports a whole new class of entrepreneurs who build virtual objects to sell or give to other players. Second Life also attracts users by letting them construct new content, encouraging them to create appealing navigable spaces and virtual objects. These virtual worlds are thriving, partly because of the freedom
of movement and pleasure in role-playing that they offer within rule-bounded environments.

While all kinds of data about players and player behavior are collected by Linden Labs and Blizzard, up until now they have not been systematically monitored by governmental agencies. Virtual worlds have been treated as spaces at least nominally exempt from surveillance, though as digitally mediated worlds, dataveillance is built into the structure of the world. Yet, if Linden and Blizzard's claims are to be given any credence at all, users live "second lives" online. Thus, the line between dataveillance and surveillance is an exceedingly tenuous one in the case of virtual worlds. As the unclassified February 15 Office of the Department of National Intelligence Report notes, "many enterprises collect information that can used to identify their individuals...the customer must be willing to share some information (Personally Identifiable Information (PII) in particular) in order to obtain desired services." Linden and Blizzard collect significant amounts of PII from their users.¹ This dataveillance has differed from surveillance in that it refrains from watching actual users, only their avatars. But since a human being in real time controls each avatar, this amounts to a form of surveillance. As Clarke writes "dataveillance is automated monitoring through computer readable data rather than physical observation...Dataveillance is the systematic use of personal data systems in the investigating and monitoring of the actions or communications of one or more persons" (Elmer, 2004). The line between "physical observation" and "automated monitoring through...data" may become radically blurred when a pilot project codenamed Reynard is implemented in virtual worlds.

Reynard, a fledgling initiative announced by ODNI in February of 2008 is charged with uncovering terrorists in virtual worlds, including—but not restricted to—WoW and Second Life. As a Wired Blog Network article puts it rather sensationally "US Spies Want To Find Terrorists in World of Warcraft." Other news outlets such as the BBC, Thirteen/WNET, and fan blogs such as Wow Insider have covered this story as well, attracted no doubt by the weirdness of the project (Vallance, 2008; Carr, 2008; Schramm, 2008). A BBC World News feature by Chris Vallant entitled “US Seeks Terrorists in Web Worlds” includes interviews with several experts from the “intelligence community,” among them Andrew Cochran, founder and co-chairman of the Counterterrorism Foundation, and Roderick Jones, a "vice president of Concentric Solutions and a former special branch officer". According to Mr. Cochran: "All of the major terrorist treatises have been distributed through the internet so taking it to a virtual world with multi-player role games is really an easy step. 'It was inevitable that terror groups would make greater use of the internet and the possibilities that virtual spaces offered them,' said
Mr. Jones. ‘There’s more a chance of things like Jihad worlds coming online in the next five years I think,’ he said’ (Vallance, 2008).

By this logic, all virtual worlds are potentially “jihad worlds” and must be monitored as such. The notion of the “jihad world” has particular resonance given the thousands of Arabs and Muslims in the US who have been “preventively detained,” compelled to give “voluntary interviews,” and made to enroll in “Special Registration,” a biometric procedure that “required the interviewing, fingerprinting, and photograph in of more than 170,000 men from twenty-four Muslim-majority countries (and North Korea). Special Registration initiated deportation proceedings for almost 14,000 people...none of the policies produced a single terrorism conviction” (Bayoumi, 2008a, p. 267). These individuals, many of whom are not virtual world users, are nonetheless already living in a “jihad world.”

Virtual worlds have been both touted as democratic social spaces that provide innovative tools for learning and critiqued as time-wasters, family-destroyers, and killers of sleep-deprived young Asian men in PC gaming parlors. They have not, however, been identified as havens for terrorists until recently. The ethos of transparency that underpins the visual culture of surveillance is stretched to its limit in the Reynard project—and indeed, the project of “spying on” virtual worlds is itself a limit case for surveillance studies. On the one hand, the project acknowledges the sweep and importance of virtual worlds as populous spaces where strategizing, socializing, and meaningful social activity occur. On the other hand, it signals the ongoing elimination of spaces of ludic possibility through digital play and interaction that make these worlds so appealing to so many. The most common critique of Reynard among World of Warcraft players who posted to the Wired News Blog article is a pragmatic one—many are unopposed to the notion of surveillance as a general principle, but almost all are quite skeptical that it will work. As “Rumrunner” posted on February 22, “Good luck getting a baseline of ‘cultural norms’ from fifteen year olds hopped up on bong hits. Maybe they can start by data-mining Barrens chat. Imao” (Singel, 2008). Many fear being incorrectly identified as terrorists because of decisions they made long ago in constructing their avatars or social groupings. As “Duncan” remarked wryly in a comment to the Wired News Blog on February 23, 2008, “I knew that I shouldn’t have named my (sic) guild al Qaeda!” The freedom to parody, satire, or in any way reference politics, nation, race, and the “war on terror” is not guaranteed by Blizzard’s End User License Agreement (EULA), but nor is it entirely restricted. However, in the future the possibility of surveillance by government agencies may make this a dangerous activity. Reynard is an experimental, still unimplemented “seedling” project as of February 2008 that carefully restricts its aims to conducting “unclassified research in a public virtual world.
environment” rather than surveilling individual users (Data Mining Report (unclassified), 2008). However, its mission to “study the emerging phenomenon of social (particularly terrorist) dynamics in virtual worlds and large-scale online games and their implications for the Intelligence Community” implies that terrorists are to be found in virtual worlds without a doubt, and that social dynamics per se are inseparable from terrorist ones. This would fail to exempt any type of “social interaction” from scrutiny. The step from this type of pattern matching dataveillance to more intrusive types of surveillance is a short one, as game avatars are examined and profiled just as their users have long been in public spaces. As “Bob” posted ironically “The Next Step will be a required retina scan to login to WoW, with presentation of identity papers before you are allowed to create a character. There is nothing more important than the pursuit of terrorism” (Singel, 2008).

The absurdity of implementing this data-mining project in a virtual world based on bloody battles, duels, the accumulation of vast arsenals of weapons, armor, and explosives and a system that rewards users for killing as many other avatars and mobs or “mobile monsters” as possible in the name of “warcraft” has not been lost on the WoW playing community. The idea that a fantasy simulation game based on war between two racially and culturally opposed factions could be an appropriate site to record patterns of “suspicious behavior” is so patently absurd that it has been gently mocked by a video segment of the Bill Moyers Journal entitled “Government Spying…on World of Warcraft?”3 In it, Rick Carr reports “Now a federal intelligence agency wants to spy on people in [virtual worlds] in the name of the global war on terror.” As he delivers this line, the visual imagery cuts from his face to a clip of World of Warcraft game play featuring massive armor-wearing jackal-headed monsters marching en masse across a desert, then dissolves to an image of the Office of the Director of National Intelligence seal. Carr goes on to say, “The announcement came from the Office of the Director of National Intelligence in February, in a draft proposal for a new project that would monitor these online worlds. The project would study their social, behavioral, and cultural norms then try to build a system to try to detect suspicious behavior. It was not clear what qualified as suspicious in World of Warcraft.” The visual commentary that accompanies this statement again cuts to a clip of WoW game play, showing an avatar lopping off another avatar’s head with a massive sword. As the victim falls to the ground in a bloody heap, Carr asks, “In Second Life, would attending a peace studies seminar count?” (Carr, 2008) The idea that virtual worlds might function as spaces of exception to surveillance and social sorting was never based in reality, and with the development of programs such as Reynard, clearly well past us. As T. L. Taylor demonstrates in her work on surveillance in World of Warcraft, both Blizzard and other players have long had the ability to gather
information about each other in ways that influence styles of game play and sociality (Taylor, 2008). Virtual worlds were always spaces of surveillance. Reynard departs from this, however, in that it posits a “jihad world” that must be uncovered through data mining. The automated mapping of “suspicious behavior and actions in the virtual world” may claim to be free of racial or cultural bias. However, as “Rick O’Connor” posted to the Wired blog on February 22, “This is bullshit. It’s spreading racism and exploitative.”

The desire to declare race irrelevant is both perennially strong and far from new. As David Eng writes, “At a time when race appears in official political discourse in the United States only as ever ‘disappearing,’ it becomes increasingly urgent to contest such sanguine pronouncements with, among other things, this simple fact: ever since the Enlightenment, race has always appeared as disappearing” (Eng, 2008, p. 1479). This turn towards the post-racial in public discourse has been much in evidence during this year’s US Presidential race. Pundits, academics, and journalists all addressed the question anew in 2008 (Williams, 2008; Steele, 2008). In 2008 the term “postracial” has circulated widely to describe the effects of Barack Obama’s run for the US presidency. In “Race Will Survive the Obama Phenomenon,” American historian David Roediger writes that “race is a far more fluid category, both popularly and at law” partly because “a huge share of the ‘white’ population now regards itself as identifying with ‘nonwhite’ peoples or culture in some way that respondents regard as central to their lives” (Roediger, 2008). It makes less sense to attribute the surge in popularity of biometrics technologies to their increasing accuracy—indeed, as Shoshana Magnet has compellingly argued, they are much less accurate than had been thought—and more sense to link it to the “fluidity” of racial categories (Magnet, forthcoming 2009). The immense funding and investment in biometrics technologies signals both a socio-political crisis and a crisis in racial categorizations.

Computers have long shaped and been shaped by racial policy, law, and categorization. Some of the first computing machines were born in the U.S. Census Office, which in 1890 “hired Herman Hollerith to design a machine capable of collating demographic information about millions of people” (Friedman, 2005, p. 35). The result was a calculating device that used holes in paper punch cards to collate demographic information—the earliest flecks of identity—and the company would later change its name to IBM. Thus, computing culture’s history is intimately connected to the history of racial classification and sorting. The need to sort populations was engendered by mass immigration of peoples whose racial status needed to be classified precisely because it challenged existing ideas of racial classification. Slavs, Italians, Greeks, and other “approximate whites” stretched the definition of
whiteness, as Arabs, Japanese, and Filipinos challenged the definition of citizenship in the post-war period. The struggle for whiteness and the claim to citizenship have always been intimately linked in the US context, for it was on the basis of purported racial whiteness that the latter group claimed citizenship. As Moustafa Bayoumi writes, the struggles of Arab-Americans to become naturalized citizens of the US proceeded through a series of stops and starts, punctuated by changes in racial classification. “When an immigration judge ruled in 1942 that the Yemeni Ahmed Hassan—perhaps the first Arab Muslim to face the court (the others had been Arab Christians)—could not petition for citizenship, the community faced a setback” (Bayoumi, 2008b, p. 263). He quotes Judge Arthur Tuttle, who wrote, “Arabs are not white persons within the meaning of the Immigration Act.” A reversal was soon to come, however—in 1944, Mohamed Mohriez succeeded in naturalizing as a citizen, with the justification being “to promote friendlier relations between the United States and other nations.” As Bayoumi explains, the US’s need for oil “changed the supposedly immutable facts of the Arab ‘race’” (Bayoumi, 2008b, p. 264). Thus, racial classification has always been subject to both political exigency and the related activity of automated sorting, with the needs of one motivating the development and application of the latter.

The chapters in this book demonstrate that surveillance is itself a new medium that needs to be studied as such in order to understand the shifting terrain of identity. The socioalgorithmics of gender, race, nation, class, and belief operate within digital spaces such as virtual worlds and Google Gmail as well as at border checkpoints and transportation control centers. In a slight modification of the claims of the software studies movement, the databases that underpin and underwrite socioalgorithmic surveillance practices have politics as well as poetics, aesthetics, and ethics. Massive databases such as Blizzard’s and Linden Labs’ contain intimate details of users’ computer usage time, forms of social interaction, sexual preferences and practices, economic status and habits, and “known acquaintances”—flecks of identity that may have once been viewed as merely virtual, but are now suspect as all too real. Bogard defines “hypersurveillant control” as both the intensification of surveillance and the “effort to push surveillance technologies to their absolute limit” (Bogard, 1996, p. 4). As new methods of surveillance and new ways of sorting us out come into being in a variety of worlds, such research is of the greatest importance.

NOTES
1 Scholarly projects have engaged in automated data collection in virtual worlds for several years now. As Taylor writes, “the PlayOn project at XeroxPARC deploys extensive data-
mining techniques for their social science research on player communities within the game (http://blogs.parc.com/playon/).” (Page 199) In addition, players use software programs or “mods” to “constantly monitor, surveil, and report at a micro level a variety of aspects of player behavior.” (Page 191)

2 Conversations that occur in public or trade channels in World of Warcraft are called “chat.” The Barrens is one of the starting areas for new players in World of Warcraft, and is well known for a particularly juvenile and tedious style of humor based on Chuck Norris jokes. “Lmao” is a common abbreviation for “laughing my ass off.”


REFERENCES


