Ludic Cyborgism: Game Studies, Cyborgization, and the Legacy of Military Simulation in Videogames

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Abstract

This article develops and critiques the concept of ludic cyborgism: the notion that playing videogames allows players a free, non-committal, yet strongly embodied pedagogical engagement with cyborg-being. The article argues that videogame play is a form of cyborgization—the act of becoming a metaphorical cyborg through participation in cybernetic feedback loops. Game Studies has so far neglected to deal with the historical and political implications of this cybernetic engagement, having chosen instead to focus on the supposedly educational and emancipatory aspects of the phenomenon. The history of videogames as simulations is intimately entangled with the development of training simulations in the military-entertainment complex of the late twentieth century United States (Crogan, 2011; Lenoir, 2000), and so what players are principally being taught through videogame play is how to operate military technologies like weapons targeting systems without critiquing the violent nature of those technologies. Moreover, the "cyborg-utopian" reading by game scholars of Donna Haraway's (1985/1991) "Cyborg Manifesto," which underlies most of the theoretical framework of ludic cyborgism, facilitates an uncritical understanding of cybernetic videogame play as an ideologically neutral phenomenon. If we wish to bring emancipatory movements into videogames, we should see the simulatory nature of videogames as an inherently conservative force with strong ties to military violence, imperialism, and economic injustice, meaning that these frameworks would require significant transformation in order to become neutral or progressive in any sense.

Keywords

cyborg; embodiment; Haraway; ludic cyborgism; military-entertainment complex; play-as-cyborgization; posthumanism

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Cyborgization and Its Discontents

There is no shortage of cyborgs in videogames: *Deux Ex*'s JC Denton (Ion Storm, 2000), *Halo*'s Master Chief (Bungie, 2001), and *Mass Effect*'s Commander Shepard (BioWare, 2007), to name but a few examples. The aforementioned virtual characters, whose on-screen movements and actions are largely dependent on the player's manipulation of their gaming device, are often physically enhanced with prosthetic limbs or exo-suits that offer protection and life support. Sometimes the enhancements are not technological but magical, (al)chemical, as is the case with *The Witcher*'s Geralt of Rivia (CD Projekt Red, 2008), whose augmentations effectively make him a cyborg in a neomedieval fantasy setting. These characters are cybernetic organisms—that is, intimate human-machine entanglements—which set them apart from other humans in their worlds. The functions of their bodies, potentials, and capacities have been radically altered by the presence of technologies within their bodies. Such functions give the player access to a wide variety of playstyles while controlling those bodies. While playing as an ordinary human being is perceived as boring by most players (cf. Kagen, 2017), cyborgization functions as a fairly reliable driver of sales revenue.

The focus of this article is not just on the capacity of videogames to offer play as cyborgs, but also the ideas of play as a process of cyborgization—that is, of becoming a cyborg. I develop and interrogate the concept of ludic cyborgism: the notion that videogame play allows players a free, non-committal, yet strongly embodied pedagogical engagement with cyborg-being. I begin by demonstrating that this link between videogames and cyborgs, both of which are products of a similar cultural and historical moment, can be utilized as a theoretical framework through which to study videogames. Play-as-cyborgization is not a way of learning through videogames to coexist with *all* contemporary technologies but rather only with those which, like videogames and cyborgs, can be traced back to the American military-entertainment complex that acquired a hegemonic position during and after the Cold War. This complication is rarely questioned in many discussions of ludic cyborgism, which has caused that concept to acquire a cyberutopian streak.

This overly optimistic perspective on the cyborgian nature of videogames invariably leads to claims about the emancipatory potentials of this playful human-machine entanglement. The figure of the player as a cyborg is often linked to the work of Donna Haraway, within which some would seek the long-overdue emancipation of bodies and perspectives other than those of young, middle-class, white, heterosexual, cisgender, able-bodied men. The proponents of such an ideal often fail to reckon with the historically militaristic and conservative characteristics of the medium of videogame. Finally, I posit that cyborgian inclusivity is a desirable and worthy goal, but it alone is

not enough. To conceive and bring about inclusivity more effectively, we need to account for the material complicity of videogames in the establishment of the military-entertainment complex, their active participation in neoliberal capitalism and ongoing global colonialism, and the inequalities those systems in turn proliferate.

The Playful Human-Machine in Game Studies

Before the cyborg was introduced into Game Studies, it already played a central role in feminist science and technology studies (STS) and posthumanist theory. In *How We Became Posthuman*, Katherine Hayles (1999) argues that the story of "how the cyborg was created as a technological artifact and cultural icon in the years following World War II" (p. 2) is crucial to understanding the shift from humanism to posthumanism in recent decades. In telling this story, Hayles distinguishes between cyborgs as "entities" and as "metaphors," and names "the computer keyboarder joined in a cybernetic circuit with the screen" and "the adolescent game player in the local video-game arcade" as examples of the latter kind (pp. 113–114). Throughout her influential monograph, she questions the "leap from embodied materiality to abstract information" (p. 12) made in the development of cybernetics and computational technologies during the second half of the twentieth century. If we take up Norbert Wiener's (1961) original definition of cybernetics as "the entire field of control and communication theory, whether in the machine or in the animal" (p. 11), then cybernetic organisms serve as the prime example of how modern control and communication technologies are still materially present in the world. With this in mind, cyborgs demonstrate that information technologies are not free of bodies and that bodies are not free of control by those technologies. This fundamentally embodied perspective on cybernetics is to be kept in mind throughout the rest of this article.

The first proper theoretical connections between videogame play and cyborgization had been made before Game Studies became a recognized academic field.[1] Ted Friedman (1999) writes that playing videogames produces a "cyborg consciousness" (p. 136), a merging of the player's mind with the logic of the computer as they navigate through virtual environments. In his text, one can find the elegantly articulated core of what I call ludic cyborgism:

> [Videogames] offer a singular opportunity to think through what it means to be a cyborg. Most of our engagements with technology are distracted, functional affairs—we drive a car to get somewhere; we watch TV to see what's on. *[In contrast,*

[1] My target is the academic body of work on videogames that is rooted in Humanities (and to a lesser degree, Social Sciences) approaches and disciplines, but I recognize that the study of videogames reaches well beyond the humanistic contributions discussed here (see Martin, 2018).

> *videogames] aestheticize our cybernetic connection to technology. They turn it into a source of enjoyment and an object for contemplation.* They give us a chance to luxuriate in the unfamiliar pleasures of rote computation and depersonalized perspective, and grasp the emotional contours of this worldview … Through the language of play, they teach you what it feels like to be a cyborg. (p. 138; emphasis added)

Note that ludic cyborgism does not refer to the phenomenon of play-as-cyborgization itself but the academic and ideological discourse surrounding that phenomenon. However, my present critique of that discourse is grounded in an examination of the phenomenon. It would be imprudent of me to suggest that discourse and phenomenon are easily separable, but they are at least linguistically distinguishable: if cyborgization is the physical process of becoming (or becoming like) a (metaphorical) cybernetic organism, cyborgism is the framework through which we make sense of and come to terms with cyborg-being. As Friedman's prototypical argument shows, cyborgism is usually supplemented with the notion that videogames are unlike other media technologies because they are interactive and, most importantly, playful, hence the adjective "ludic" in the term "ludic cyborgism." Videogames do not simply offer cyborgization in the same way that other technologies do—they actively encourage it, playfully call attention to it, and in the process temporarily offer their players the chance to experiment with the phenomenology of cyborg-being in the postmodern world. In short, videogame play *is* cyborgization.

The thoroughly embodied nature of the cyborg figure functions mainly as a metaphor for the "cybernetic nature of gameplay" (Dovey & Kennedy, 2006, p. 108). Martin Lister et al. (2009) characterize videogame play as "literally cyborgian" (p. 306) and even claim that through "the tactile and visual interface with the machine, the entire body is determined to move by *being part of the circuit of the game*, being, as it were, *in the loop*" (p. 398; original emphasis). This blurring of distinctions between human and nonhuman agents—that is, the uncertainty of whether agency lies on the side of the player or of the computer that results from the cybernetic feedback loops initiated between them—is often posited as not just the clearest distinguishing feature of videogames from other media or play forms but also as one of the central pleasures of the videogame medium. The investigation of this intimacy, these "corporealized pleasures" (Lahti, 2003), and their border-shattering implications is another key element in ludic cyborgism. Such analyses invariably draw on a rather particular, somewhat utopian—though not invalid—reading of Donna Haraway's (1985/1991) "Cyborg Manifesto" as "an argument for *pleasure* in the confusion of boundaries" (p. 150; original emphasis). According to this reading, the cybernetic connection of player and videogame should be seen as ripe with potential for previously unexplored forms of

entertainment, meaning-making, and textuality. A more in-depth scrutiny of the relevance of Haraway's text to feminist Game Studies follows in a later section.

Jon Dovey and Helen Kennedy's (2006) chapter on "Bodies and Machines" in *Game Cultures* contains many of the emblematic arguments about cyborgism and embodiment in videogames that frequently recur in pertinent discussions (pp. 104–122). They use the specifically embodied aspects of videogame play, such as "the various physical competencies expected and *preferred* by the game" (p. 110; original emphasis) or the way that videogames use sensorial feedback—including audiovisual and haptic signals—to construct the player as partially present in the environment and as kinesthetically responsive to that environment (cf. Giddings & Kennedy, 2008; Swalwell, 2008). Their discussion culminates in a theorization of technological identity-building they term "technicity," which they argue to be "a critical aspect of this cyborgian subjectivity" and which "encompasses not just a set of tastes or attitudes but also very specific kinds of skill (or competencies) in relation to technology" (Dovey & Kennedy, 2006, pp. 113–114). For Dovey and Kennedy (2006), "it is technicity, not ethnicity, gender or age, that determines inclusion and participation" in videogames, and therefore play-as-cyborgization "enables us to reflect on the arbitrary or unjust nature of limitations experienced by the material body in everyday life" (pp. 117–118). One way in which they demonstrate this supposedly indiscriminatory aspect of technicity is by showcasing the positive experiences of female players in the first-person shooter videogame *Quake* (id Software, 1996); these female players highlight the kinesthetic elements of play and even claim that playing videogames made them more interested in engaging with technology in general. In the arguments by these female players, we can see the influence of optimistic scholars like Friedman (1999) and James Paul Gee (2003) regarding the pedagogical potentials of videogame play and play-as-cyborgization. What is also significant is specifically the emancipatory aspect of their theory—this element was only briefly highlighted in previous work (see Kennedy, 2002), but has become another prominent feature in ludic cyborgism since then (e.g. Albrechtslund, 2007; Keogh, 2016, 2018; Welsh, 2016). As indicated in the introduction, looming contradictions within the various aspects of ludic cyborgism elaborated upon here invite for further scrutiny.

Ludic Cyborgism, Revis(it)ed

Various scholars who employ ludic cyborgism present a utopian view on the play-as-cyborgization phenomenon and its potentials because some of its underlying assumptions are not critically examined. More specifically, the development of videogames as technological artefacts and as cultural icons over the past five decades is either absent from the discussion completely—causing ludic cyborgism to become an ahistorical concept—or it is briefly mentioned and not connected to play-as-

cyborgization in any significant way—causing the concept to lose its critical edge. Furthermore, the scientific development of the cybernetic organism as an actual entity is often ignored: the experimental subjects referred to in the paper that coined the term "cyborg," presented at a 1960 conference on the psychophysiological aspects of spaceflight, were rats and other animals that had been fused with a pressure pump that would administer drugs at regular intervals (see N. S. Kline & Clynes, 1961). However, these animal tests were being done with the intention of switching to human subjects eventually—and this has happened since then, both for the original purpose of maintaining bodily homeostasis through cybernetic technologies and for many other goals (e.g. Warwick, 2014). Such history is usually omitted in favor of a summary of Haraway's political fiction. As I show in this section, bringing further historical context to the concept and thinking through the implications of doing so reveals the currently dominant cyberutopian understanding of ludic cyborgism. I focus specifically on the legacy of military simulation technologies and the entanglement of military and commercial interests in the development of videogames. This perspective also allows the concept to become a productive theoretical tool for those who seek the emancipation of videogame culture from its masculine hegemony.

A key feature of videogames as discussed in the discourse of ludic cyborgism is that they are simulations: computer-generated models with or without non-virtual referents that respond to cybernetic inputs from their players/users (e.g. Friedman, 1999; Lister et al., 2009). This idea has been quite prominent in the ludological stand of Game Studies too, proving to be a powerful tool in ludology's effort to assert the interactive and rule-based specificity of videogames (cf. Frasca, 2003). That said, the nature of computer simulation is left somewhat uninterrogated among ludologists, except in regard to its supposedly innovative meaning-making capacities. The latter move was intended to deter more established lines of inquiry from being applied to the study of videogames—a trend that Kevin Moberly (2013) has appropriately described as a series of pre-emptive strikes. Likewise, in the eyes of early proponents of ludic cyborgism, computer simulation itself has remained largely innocent and ideologically neutral beyond its capacity to distract the player into self-inflicted carpal tunnel syndrome. It is precisely in the simulatory nature of videogames, however, that we find the opportunity to contextualize play-as-cyborgization and the pedagogical and identitarian potentials that ludic cyborgism can help to discerns in a critical manner. To say that videogames "teach structures of thought" (Friedman, 1999, p. 136) is simply not enough. We need to question exactly what kind of thought is being taught.

This question reaches beyond the representational content of videogames, and so Marshall McLuhan's (2013) assertion that "the medium is the message" is very much applicable here. However, an inventory of the most prominent themes of early experiments in the

medium does provide an indication of the direction in which one needs to search:

> [Videogames] sprang from the high-technology military-industrial complex where simulations of mass destruction were routine. *Spacewar* [arguably the first videogame, developed on a military-grade PDP-1 computer in the early 1960s] was the product of a culture dedicated to the everyday contemplation of nuclear megadeath. Depicting violence, moreover, was an easy programming task for the simple computers on which early interactive gaming depended, partly because the machines were conceived and designed with precisely such military purposes in mind. Both cultural and technical forces thus ensured that when game pioneers entered the commercial market, it was "natural" for them to create games like *Tank*, *Periscope* or *Space Invaders* based on scenarios of war and shooting or strategizing skills. (S. Kline, Dyer-Witheford, & De Peuter, 2003, p. 248)

Clearly, any problematization of computer simulation requires a look at the historical context in which it came into existence, specifically at the "synergistic linkages and revolving doors between military simulation and interactive entertainment" (S. Kline et al., 2003, p. 248). For this purpose, Timothy Lenoir's (2000) discussion of the rise of the "military-entertainment complex" offers a good view on the ways computational technologies for military training simulations were disseminated into the private entertainment sector and became the basis of modern-day videogame development. He points out that many of the medium's early pioneers, such as Nolan Bushnell, Warren Robinett, Jaron Lanier, and Scott Fisher, had intimate ties with military simulation research either before or after their careers as videogame designers and VR developers (pp. 298–300). The success of the industry has also often relied on military research and development: for instance, Nintendo was able to up the ante in the industry's self-created push for ever-more powerful machines and supposedly realistic graphics by including processing chips produced by Silicon Graphics, a technological research company founded by a former military computer scientist (pp. 306–308). Using these examples, Lenoir effectively argues that it is practically impossible to unlink the ostensibly innocent entertainment simulations that most videogames purport to be from the military simulation technologies that provided the material basis for them.

Lenoir's initial description of the military-entertainment complex, the political-economic and technological entanglements of the U.S. Department of Defense (DoD) with global entertainment industries (primarily film and videogames), has since been picked up and elaborated upon by a variety of game and media scholars (e.g. Crogan, 2011; Huntemann & Payne, 2010; Lenoir & Caldwell, 2018; Payne, 2016; Stahl, 2010; Werning, 2009). Patrick Crogan (2011) argues that the tendency of "specific military technoscientific projects" like weapons

targeting systems to expand into other facets of society was already present in the field of cybernetics early on, by noting that its inventor intended this new science to be able to model a great variety of different biological and technological systems "before its ultimate expansion toward a modeling of the entire universe" (p. 4). He goes on to discuss in-depth the military-funded research projects that created the logistical and technological basis for videogame development. The systems that the Semi-Automated Ground Environment (SAGE) air defense project produced, completed in 1961 and remaining active well into the 1980s, were screen-based radar maps upon which a great variety of air force attack scenarios could be simulated. This became one of the primary functions of these systems when the development of intercontinental ballistic missiles and anti-missile defense systems in the 1950s rendered their real-time command and control capacities obsolete. Crogan states that such computers were "comprehensible as simulations" because they operated by "modeling thermonuclear war as, precisely, comprehensible and therefore manageable" (p. 9). Their purpose had shifted from detecting and managing actual air attacks to constantly modelling a multitude of hypothetical combat scenarios, in order to eventually arrive at a model in which the degree of risk and contingency on the part of the U.S. military was as minimal as possible. This system, according to Crogan, was thus crucial in creating and sustaining the logic of military computerized simulation as, eventually, the intended eradication of all contingency.

Early cybernetic projects and the foundational SAGE system were largely developed within the walls of DoD-funded institutions, from which technologies were spread into the burgeoning computer and videogame industries. However, after the 1980s, the relationship between military and non-military sectors became much more reciprocal (cf. Lenoir & Lowood, 2005). Crogan (2011) describes SIMNET, a networked simulation training project that operated through the 1980s and 1990s, as a significant marker of this shift because its major technological advances were now also economically viable for application in the entertainment industry. The logics of early cybernetics and the real-time virtualization of SAGE came together in SIMNET's unprecedented capacity for multi-user networked simulations and its paradigm shift from simulating "complete realism" to "selective functional fidelity" (p. 13). As mentioned earlier, the subsequent proliferation of these technologies and design principles into the private sector benefited the military in turn as well, which is why Crogan states that "the cross-fertilization of military and entertainment prerogatives and applications of computer simulational technics and practices is a true complex" (p. 17). Canonical examples of this include the U.S. Marine Corps modification of *Doom II* (id Software, 1994) for training purposes, the conversion of combat simulator *Full Spectrum Warrior* into a commercial videogame (Pandemic Studios, 2004), and the ever-prominent U.S.

Army recruitment and propaganda tool known as *America's Army* (United States Army, 2002).

The above offers only a brief summary of the development of the military-entertainment complex and the ways in which videogames are entangled with that history, since it would take up too much space here to provide a parallel technological-cultural-economic history of the videogame industry (see S. Kline et al., 2003). It must be emphasized that the military-industrial origins of contemporary computer simulations are not just relevant to wargames or to videogames which are specifically about the military—although such games are certainly more overtly involved in the militarization of American and Western society, which "progressively integrates the citizen into the momentum of the war machine" (Stahl, 2010, p. 110). There is of course the question of whether this is always explicitly intended by military institutions: for instance, Lenoir and Caldwell (2018) have argued persuasively in their recent work that the forces that drive the proliferation of war-themed videogames nowadays are better sought in "the constraints of digital capitalism" (p. 26) rather than Pentagon-financed research projects. That said, Crogan (2011) illustrates his central claim about the Cold War's technoscientific legacy in the medium's development not through a military-themed shooter but the well-known species survival videogame *Spore* (Maxis Emeryville, 2008). He notes various aspects, such as its primary mode of interaction ("tactical realtime strategy"), its victory conditions ("win the race to an objective or defeat the ultimate enemy"), and its teleological view of biology that causes game goals to "dictate the direction and prerogatives of evolution" (pp. xii–xiii). Regardless of the intention of the developers or the theme of the game, the legacy of military simulation can still be clearly seen and felt in the medium.

Across the most popular videogame genres and prominent modes of interaction, the logics of military simulation—which harbor a deep concern with the hypothetical creation and subsequent elimination of contingency in line with the goals of early cybernetics—are still visible. The military first-person shooter offers the clearest illustration of this (cf. Payne, 2016), but so-called simulation games like *Civilization II* (MicroProse, 1996), which is discussed in detail by Friedman (1999), are also exceptionally useful in demonstrating that videogames are not exclusively about identifying with certain social roles but about identifying with the simulation itself. While Friedman argues that this phenomenon is an opportunity to critically engage with the implications of this cybernetic connection, Crogan sees the opposite possibility. The computational structures which are taught during videogame-play are non-innocent and certainly non-neutral, as their material affordances were often invented with the specific goals of modelling and anticipating violence in mind. Moreover, Crogan (2011) points out that engaging with such simulations successfully (by any measure accepted by their

creators and publishers, at least) essentially requires the player to accept their conditions for interaction and their selective functional fidelity as legitimate modes of experiencing the presented scenarios (pp. 168–169).

This necessity does not make alternative interpretations or criticism impossible—our field would not exist otherwise. Indeed, for non-academic consumers, metagaming practices and fannish paratextual engagement expand the space of interpretation far beyond the simulation itself (cf. Boluk & LeMieux, 2017; Jansen, 2018). And yet, the fact that computer simulations are laden with the explicit purpose of constructing and then minimizing a given possibility space—the elimination of contingency—does tend to make certain types of interpretation seem irrelevant or inapplicable. In accordance with Jean Baudrillard (1983), one might say that these computer simulations are emblematic of a more general tendency towards the use of simulation processes visible across contemporary media: they are models, self-referential systems of meaning that produce their own hyperreality. Simulation, for Baudrillard (1979/1990), is a "circular construction where one presents the audience with what it wants, an integrated circuit of perpetual solicitation" (p. 163). The virtual environments of videogames, and the choices we are asked to make in them, similarly discourage any input or meanings that are not contained within their boundaries—although Baudrillard too notes that simulations are never completely successful at this. Still, unless the simulation wants us to, we do not usually think about what we are doing within it because the simulation makes itself make sense, legitimizing itself by criteria its own creators have set in the first place.

What is being taught in play-as-cyborgization, then, is not a critical engagement with cyborg-being but a mode of thinking that does not accept contingency, risk, or uncertainty. Given the military origins of the medium and the dominance of leading men who continue to produce videogames that align with their patriarchal and culturally militarized interests, it is unsurprising that most prominent and popular videogames have masculinist violence as their primary method of achieving that intended elimination of contingency. It is also no wonder that the input devices for missile drones resemble the standard videogame controllers of the Xbox and PlayStation systems. In fact, they were specifically developed "to facilitate the training of operators by taking advantage of their familiarity with navigating and acting in … gameworlds" and "to leverage the research and development work done by the commercial games industry" (Crogan, 2011, p. 158). More recently in 2017, the U.S. Navy started to use Xbox controllers to operate the periscopes of nuclear submarines, reasoning that the operators would already be familiar with the technology (Berents & Keogh, 2019, p. 515). Players are not being taught how to be a cyborg in everyday life; they do not learn how to use their smartphones or

other devices by simply playing *Spore* or *Full Spectrum Warrior* (although they might be more receptive to the presence of those technologies), let alone how to critically engage with the material conditions of those devices' production, distribution, and consumption. What they do learn, aside from the "embodied literacy" (Keogh, 2018, p. 77) required to play and understand videogames successfully, is how to operate training simulations and to effectively use weapons targeting systems.

Embodiment and Emancipation in Videogame Culture

Play-as-cyborgization—or rather, the cybernetic feedback loop that fuels it—serves to draw the videogame player deeper into the military-entertainment complex as a cyborgian "virtual citizen-soldier" (Stahl, 2010, p. 35) instead of as a technologically literate cybernetic subject capable of making sense of their technologized surroundings by virtue of having engaged with supposedly playful simulations. Evidently, this critique contradicts the liberatory reading of cyborg-being that underpins Game Studies' version of cyborgism, and goes against the notion that cyborgs, as "illegitimate offspring of militarism and patriarchal capitalism," are "exceedingly unfaithful to their origins" (Haraway, 1985/1991, p. 151). The metaphorical cyborgs that videogame players become are not disconnected from their gendered or racialized bodies through the cybernetic construction of what Dovey and Kennedy (2006) call "technicity." Conversely, this presumed body-neutral technicity, based on very specific technological competencies, is actually shot through with patriarchal control dynamics and militaristic logics of elimination which have been consistently aimed at the Middle East, especially after the start of the War on Terror (cf. Höglund, 2008). There is also an overwhelming able-bodied bias in the medium, notable in its heavy focus on audiovisual cues and the male-centered standardization of its input devices (cf. Keogh, 2018, pp. 91–95). If the cyborg is not free of its "historically constituted body" (Haraway, 1985/1991, p. 157), we can assert that play-as-cyborgization is not a disembodying process and, as such, does not automatically liberate players from the situatedness of their bodies within videogame culture and society at large.

While an uncritical ludic cyborgism too readily assumes that play-as-cyborgization is an inherently liberating process, a critical revision of the theory comes to a nearly opposite conclusion—that videogames are exceedingly faithful to their militaristic, patriarchal, and capitalist origins. Interestingly, Haraway's (1985/1991) classic text demonstrates not only an acute awareness of how those origins continue to implicate her cyborg in oppressive structures, but also contains an early problematization of videogames:

> The new technologies seem deeply involved in the forms of "privatization" … in which militarization, right-wing family ideologies and policies, and intensified definitions of corporate

> (and state) property as private synergistically interact. The new communications technologies are fundamental to the eradication of "public life" for everyone. This facilitates the mushrooming of a permanent high-tech military establishment at the cultural and economic expense of most people, but especially of women. Technologies like video games and highly miniaturized televisions seem crucial to production of modern forms of "private life." The culture of video games is heavily orientated to individual competition and extraterrestrial warfare. High-tech, gendered imaginations are produced here, imaginations that can contemplate destruction of the planet and a sci-fi escape from its consequences. More than our imaginations is militarized; and the other realities of electronic and nuclear warfare are inescapable. (p. 168)

Some have dismissed these sentiments as "paranoia about compelling, immersive and cybernetic relationships between computer games and their players, coupled with the games' status as commercial media" (Lister et al., 2009, p. 287). However, by now it should be clear that the very text upon which ludic cyborgism's utopian view seems to be based contains the beginnings of a valid critique, similar to the one I have been proposing in this paper, albeit something of a throwaway paragraph within an incredibly dense essay. We should no longer confuse criticism for paranoia, especially when such a confusion stands in the way of the various emancipatory movements that videogames as well as their cultures and industries so desperately need (e.g. Gray & Leonard, 2018; Shaw, 2014). This has some consequences for the applicability of the cyborg within that emancipation, primarily for feminist approaches to videogame culture.

The most extensive effort to imagine the emancipation of women and other social minorities in videogame culture through the cyborgian lens that I am aware of is Brendan Keogh's (2018) *A Play of Bodies.* He draws on Hayles's (2005) work on electronic literature to argue that the textuality of videogames is "distributed across the player's physical body, the videogame hardware, and the virtual bodies and worlds of the videogame's audiovisuality" (Keogh, 2018, p. 47). The meaning-making process of videogames is, like the process of play-as-cyborgization, thoroughly embodied. Keogh notes that the overly familiar masculine hacker mythos that reached its peak in the 1970s tends to consider videogames as a part of the masculinist efforts to master and configure the digital realm, seeing control over the digital as a way to exert agency over the non-digital much in the same way that Crogan claims military simulation does. This conveniently—or intentionally—leaves out the fact that the very term "computer" used to refer to the people, often women, who wrote complex codes and calculations for the military during World War II (cf. Abbate, 2012). In contrast, a phenomenological investigation of videogames as "*audiovisual-haptic* media" (Keogh,

2018, p. 12) reveals that there is much more to this particular human-machine entanglement than the hacker would have us believe: that we are not ideal, liberal, presumed-male subjects who exercise perfect agency through a submissive device, but "imperfect configurers" (Golding, 2013, p. 42) who are rarely able to totalize the program they are engaged with. For Keogh, there is not human domination but rather posthuman collaboration at play when signification is cybernetic and distributed across flesh, metal, plastic, and code.

Building on many of the authors mentioned here, Keogh (2018) proposes a way out of the limitations that the hacker mythos imposes on the medium by turning to the cyborg and conceptualizing the *cyborg-player*. He writes hopefully that a focus on "the inherent cyborgism of videogame play [which I would call *play-as-cyborgization*] … provides fruitful ground to explore broader capabilities of the videogame form, along with more nuanced ways of comprehending the experiences players are capable of having with such a form" (p. 191). Like Haraway's (1985/1991, p. 151) cyborg, the cyborg-player has a utopian commitment to "partiality, irony, intimacy, and perversity," and thus "embraces the fact it is always already in part shaped and mediated by the machines with which it integrates: always already partial, always already mediated" (Keogh, 2018, p. 182). Unlike the faux-universalist perspective taken by the hacker-gamer (read: young, middle-class, white, heterosexual, cisgender, able-bodied men with high degrees of embodied videogame literacy), the cyborg-player's perspective accepts its situatedness and therefore accepts a videogame play experience that does not exclusively revolve around control and mastery.

Keogh's (2018) stated intention is for this cyborg-player to figure as a new kind of technicity, which ought to shift the evaluative and critical discourse around videogames to be more inclusive. If we can accept that non-traditional and non-action-oriented videogames like *Dear Esther* (The Chinese Room, 2012) or *Dys4ia* (Anthropy, 2012) are contributions to the medium as valid as mainstream videogames like *Call of Duty 4* (Infinity Ward, 2007) or *Skyrim* (Bethesda Game Studios, 2011), the culture of videogames as a whole should become more inclusive beyond the narrow view of the hacker-gamer. In this way, ludic cyborgism is already a tool for emancipation on its face. But since Keogh, like the majority of his predecessors, does not significantly reckon with the militarism that underlies simulations in general and videogames specifically, the cyborg-player's emancipatory potential remains unfulfilled, hampered by an unjustifiable "cyborg-utopian" view of the cybernetic qualities of the medium.[2] Generally, the unspoken

[2] Keogh does address these issues elsewhere, not from the view of ludic cyborgism but from a feminist STS and International Relations perspective that critically interrogates the U.S. military's interest in the medium in a similar vein as the present article (see Berents & Keogh, 2019).

assumption that play-as-cyborgization is at its core an ideologically neutral phenomenon that lends itself equally to conservative and progressive goals remains uninterrogated. But hardly anything is more conservative than the "war on contingency" (Crogan, 2011, p. 36) that the majority of simulations and videogames have historically undertaken, and cybernetic technology is far from neutral when it consistently aims to make reality itself a manageable possibility space where zero risk is the ideal scenario. Therefore, if progressive emancipation is our goal we will need the vocabulary to tackle those historical and material obstacles effectively, which I have attempted to provide here.

Beyond "Cyborg-Utopia"

There is no reason to avoid engagement with the commodified status and technocultural baggage of videogames when discussing their cybernetic qualities, except if one seeks to maintain a celebratory attitude towards the medium. Whether it is intentional or not, ignorance of the medium-wide criticisms made thinkable by authors like Crogan and Haraway creates an intellectual framework in which the videogame as a material object is somehow divorceable from the conditions in which it is produced and consumed. In this framework, it is possible to implicitly maintain the object's fundamental innocence and neutrality while blaming all the supposedly bad aspects of the medium on external factors, which offers room for an undesirable depoliticization of the videogame. But like the cyborg, the videogame is not innocent. This acknowledgement can only help us to grow out of the cyborg-utopianism that occupies ludic cyborgism and thereby help Game Studies to envision and bring about the emancipatory changes we would like to see. Most of the leading and incisive critiques of videogames (e.g. Crogan, 2011; S. Kline et al., 2003) are strongly grounded in materialism and critical theory, and thus refuse to see any of the production, distribution, and consumption contexts as entirely separable from each other. Understanding either production, distribution, or consumption is impossible without understanding each of them together. We cannot, for instance, comprehend the complexities of play-as-cyborgization through the consumption of videogames without addressing how videogame production is a type of cyborgization as well—if we can even make such a distinction between play and labor to begin with (cf. Kücklich, 2005). Only with a full view of the material conditions that shape videogame play, and the realization that the medium's history resonates loudly within its every facet, can we productively engage with its most problematic aspects and make efforts to transform it.

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