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## **Constituting the Player: Feminist Technoscience, Gender, and Digital Play**

*Alison Harvey*

*York University, Toronto, Canada*

### **ABSTRACT**

It has been argued that game studies scholars need to move beyond any understanding of gendered preferences in the content and mechanics of video games. Instead, we need to conceive of play as an assemblage, shaped through content, marketing, competency, experiences, access, context, and milieu (T.L. Taylor, 2008; Dovey & Kennedy, 2006; Jensen & de Castell, 2008). This paper considers and extends some of these observations on the complex networks of gendered gaming in light of the insights of a branch of science and technology studies known as feminist technoscience. Mobilizing in particular the work of Mol (1999) and Barad (1999), as well as preliminary findings from the author's doctoral fieldwork, this paper considers the value of feminist technoscience concepts such as ontological politics, multiples, enactments, and agential realism in examinations of the gendered nature of game play.

### **KEYWORDS**

Feminist technoscience; gender; video games; family; young people



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## **Constituting the Player: Feminist Technoscience, Gender, and Digital Play**

### **INTRODUCTION**

Some of the most interesting and complex analyses of gender and gaming stem from approaches that consider the networked nature of games as sociotechnical systems (see for example T.L. Taylor, 2008; Dovey & Kennedy, 2006; Jensen & de Castell, 2008). This paper extends some of these observations on the complex networks of gendered gaming in light of a few of the insights of a branch of science and technology studies (STS) known as feminist technoscience, which attempts to understand the way sciences and technologies are made, circulated, and consumed beyond dominant discourses, without using the 'social' as a stable explanatory concept. Thus technologies and technological practices are not explained simply as social constructions, but are reframed as sociotechnical systems requiring explorations of the interactions between discourses and practices.

Mobilizing in particular the work of Mol (1999, 2002) and Barad (1999), this paper considers the value of feminist technoscience concepts, including ontological politics, multiples, enactments, and agential realism, in examinations of the gendered nature of game play. Can ontological politics, the study of objects as multiple rather than coherent and singular, allow us to better understand the ways in which masculine technological knowledge is assumed and perpetuated in game play? Can the study of everyday enactments of normative video game play contribute to a broader understanding of the dominant discourses of hardcore<sup>1</sup> video game play and masculine technological expertise, linking practices with the discursive realm? Can we use the concept of agential realism, which posits a way of understanding the ties between the material and discourse, to achieve a more nuanced understanding of how distinct concepts of feminine and masculine game play are produced?

Using preliminary findings from my doctoral fieldwork, which involved interviewing young game players and their parents, this paper considers the connections between feminist technoscience concepts and current work in video games and gender in order to provide further avenues of investigation and inquiry, and to illuminate potentially fruitful approaches for examining gendered game play.

### **GENDER AND TECHNOLOGICAL COMPETENCY: ENACTING PROFICIENCY THROUGH GAMING PRACTICES**

Video games are a key object in a nexus of discourses about childhood, media, technology, hope, anxiety, and gender. From the revulsion evoked by *Mortal Kombat* upon its release in arcades in 1993 to moral panics over *Doom*, *Grand Theft Auto*, and *Manhunt* in relation to highly publicized violent incidents involving young men, this not-so-new media form has been the focus of heightened rhetoric around youth, technology, and gender. Romantic and Puritan visions of play run in parallel to these panics, framing youth play as serving a higher purpose and as having a value which leads to creative, personal, and educational development. These visions of play as having a purposeful end (Narine & Grimes, 2009), aiding in

the development of the productive adult, are manifested in rhetoric around girls falling behind in careers in science, engineering, math, and technology. They can also be seen in the concerns around how girls can be encouraged to engage with technology through the play of digital games with educational content tailored to their interests, which are always defined along gendered lines (Carr, 2005). Through these discursive formations, in which play and children's leisure are sites of fascination, educators and parents are in turn constructed as wavering between breathless excitement for the promises offered by these educational games and paralyzing anxiety around the dangers these offer apparently already troubled children, especially when those children are boys. In many ways, what is served by these moral panics is the constitution of a vision of normative childhood that is clearly demarcated from adulthood. This vision is most clearly articulated when contrasted with that of the deviant child who treads too closely to adult concerns (Buckingham, 2000).

These discursive formations around video games do not only serve to inform visions of productive play but to delineate a gendered element to hopes and fears around technology. Rhetorically, masculine game play is constituted as problematic while feminine game play is framed as in need of cultivation. Throughout, parental sentiment fluctuates between heady hope and potent fear.

In response to these discursive frameworks, I proposed an examination of the everyday practices of youth game play. Via a sample of young players aged eight to fifteen years of age and their parents I focused in particular on the virtual game worlds that are oriented towards children, such as [Club Penguin](#) and [Webkinz](#). I interviewed twenty-five participants between February and May 2010, including fourteen boys and girls, along with eleven of their fathers and/or mothers. Table 1 provides further details of these participants.

This pool of participants followed none of the expectations of the classic sociological sample (random, verifiable), and was necessarily haphazard due to the difficulties of obtaining minors in a study. For this reason I make no claims to generalizability. Instead, the purpose of my study was to allow both the young people and their guardians to speak about their everyday game world practices in response to the discourses that surround their activities. Each participant was asked their opinion of the threats of game play as reported frequently in the news, for instance in terms of video game violence and the spectre of the predator online. The questions asked during the semi-structured interviews centered on how these young game players understood the design of children's virtual worlds as gendered and how, in turn, youth performed gender in these spaces. More broadly, my investigation examined the technologies with which these young people engage, and considered their technological practices. My questions for parents were oriented towards gaining insight into their understanding of the discourses of masculinity and femininity and of fear and hope that circulate around young technological play. My queries also included exploratory questions about how the parents understood, structured, and regulated their own technological practices and those of their children.

*Table 1. Details of participants (all names are pseudonyms)*

<b>Family Name</b>	<b>Given name</b>	<b>Family Position</b>	<b>Age</b>
The Kalifa Family	William	Father	58
	Catherine	Mother	52
	Benjamin	Son	14
The Purcell Family	Olivia	Mother	42
	Tyler	Son	9
The McKinney Family	Adrienne	Mother	40
	Kelsey	Daughter	13
The Nowicki Family	Lise	Mother	33
	Marc	Son	8
The Jones Family	Dean	Father	41
	Mackenzie	Daughter	8
	Quinn	Son	12
The Francis Family	Clare	Mother	45
	Katie	Daughter	8
	Mason	Son	14
The Swain Family	Regina	Mother	45
	Chloe	Daughter	13
	Naomi	Daughter	15
The Parks Family	Marjorie	Mother	56
	Noah	Son	15
The Cochrane Family	Miles	Father	46
	Cody	Son	8
	Jeremy	Son	15
The Eddisford Family	Sebastien	Father	39
	Marcel	Son	13

I have transcribed the interviews and I conducted the analysis using Corbin and Strauss's (2008) method of coding in-vivo and developing memos sketching out these codes and emerging themes. It became evident, even in the early stages of this analysis, that the study participants do not discuss video games and gender in terms of the performance of masculinity and femininity in online spaces, but in broader and more complex ways through discussions of technological competency and proficiency, expertise, practices, uses, and regulation of play. What emerges is a portrait of how the family can act as a significant node in the network of technological competence. In various ways, I see the family enacting a gendered component to game play specifically, but also to uses of other technologies, such as the Internet, including social networking sites, cell phones, and portable music devices. However, the gendering of technological competence and game play is not expressed in the same way by each of the families or by each of the subjects, but in complex, often even contradictory ways. I have had to turn to some of the insights of feminist technoscience to learn more about how I, and those of us that deal with video games as sociotechnical objects, can grapple in productive ways with the complexity and multiplicity of findings in empirical research of gendered game play. In what follows I will use this study and its initial findings as evidence

for the potentialities and limitations of several feminist technoscience concepts in examinations of empirical research into gender and video games.

### **THE GAMER MULTIPLE: DO VIDEO GAMES HAVE ONTOLOGICAL POLITICS?**

Within medicine we encounter illnesses that are often understood as coherent. Medical textbooks and patients speak of anemia, for instance, or atherosclerosis as something unified. In practice, however, these conditions do not have one reality. According to Mol, anemia is different clinically from anemia in the laboratory, which is still something else pathophysiologically (Mol, 1999). Atherosclerosis equals different things when practitioners talk about pathology, populations, or surgery (Mol, 2002). Therefore, in practice, we cannot understand what these diseases or disorders 'are', because they are multiple. This vision of 'the real' is a radical reformulation of ontology that has been conceptualized as an ontological politics (a term coined by Law, 1998, and developed by Mol, 1999, 2002).

The political dimension of this multiplicity of understandings involves the implication that there may be options and choices we can make between different performances of reality. Multiples are enacted historically, culturally, and materially in concrete and situated milieus. If the conditions of possibility are not fixed – if reality is shaped in mundane practices – then reality is open and can be contested. However, Mol problematizes this connotation of choice. She notes this understanding presupposes an actor that is able to actively choose. In practice, however, they "may be inextricably linked up with how they are *enacted*" (Mol, 1999, p.74). The purpose of understanding the multiple character of realities is to better understand reality as not universal or stable, but as materially located in everyday practices.

Bogost (2009) highlights the multiplicity and mess of video games. Through his work, we see video games 'are' more than one thing. For instance, the game [E.T.](#) can be examined ontologically as assembly code, a flow of radio frequency modulations, a moulded plastic cartridge, a consumer good, a system of rules and mechanics, a player experience, a unit of intellectual property, a collectable, and a sign. Not one of these understandings of games is truer than the other; E.T. is multiple, and yet none of these different ontologies are fragments. The interesting thing about the enactment of multiple realities in practice is how these do not interfere with the ways in which these multiples cohere (Mol, 2002). Bogost argues that to understand this is to embrace messiness and to study games from the perspective of many perspectives, to develop a 'slutty' ontology, "one in which anything is thing enough to have a good time" (Bogost, 2009, np). The problem with this recommendation is that it succumbs to perspectivalism, which Mol carefully distinguishes from multiplicity. Perspectivalism and pluralism differ in important ways from an attunement to multiplicity, because multiples are not different aspects of the same thing seen from the eyes of many. Viewing multiples in this erroneous way reifies a singular object that is but the subject of multiple gazes. Instead, by looking at video games from the perspective of many perspectives, as Bogost recommends, the approach to understanding the realities of video games renders only the approaches multiple and not the video game itself. This returns us to a coherent object rather than the non-coherence implied in mess.

Still, the concepts of multiplicity, enactment, and ontological politics, as well as the resultant notion of mess, are interesting for the study of gender and video games. Mol (1999) notes that the multiple notions of anemia do not only have implications for the multiple character of this disorder but for the production of bodies and identities, particularly in terms of gender, as anemia is *done* differently across categories of men and women. The enactment of reality in any particular locale, when examined carefully, highlights interferences between the many objects performed within a practice. The performance of bodies and identities is a key consideration within video game studies (see for example Alloway & Gilbert, 1998; Bryce *et. al.*, 2006; Carr, 2005, 2006; Kafai *et. al.*, 2008; Jenson & de Castell, 2008; Sanford & Madill, 2006; Taylor, 2005, 2006; Walkerdine, 2007). Indeed, investigations around these two areas of body and identity have been consistent if not entirely central to the field for some time. Thus, just as video games such as E.T. are many things, the gamer is multiple as well.

An example from the project detailed above demonstrates how the enactment of gendered technological proficiency in household practices around video games specifically, and technology generally, works. Game play amongst the subjects I interviewed was basically universal across not only the young people, but also their parents. Games, ranging from mini-games on flash game sites<sup>2</sup> to *Club Penguin*, from *The Sims* to *Halo*, were played not in the stereotypical manner envisioned in the image of the solitary teenage boy playing in his basement. Instead, 13-year old Kelsey admitted "I love *Halo*" and Dean told me he encourages both Quinn and Mackenzie to play *Call of Duty: Modern Warfare 2*. Despite the fact that within the everyday context both girls and boys were game players, however, the enactment of technological competence often fell in line with discursively constituted stereotypes of masculine proficiency and feminine ineptitude. Girls that played 'hardcore' games had their technological competence and non-normative game play described in a number of problematic ways. Girl gamers like Kelsey, Mackenzie, and Chloe were described as exceptional ("she's the only one"), inferior ("she still needs my help", "I still pwn her<sup>3</sup>", and deviant ("she has a boy brain", "she's a tomboy", "she's not like other girls"). Feminine game play and technological competency more broadly were often rendered invisible or irrelevant, particularly when their play was limited to casual or stereotypically feminine game play (such as the play of *Farmville*, *Nintendogs*, and *Sims* games). This was the case when Lise dismissed her own game play on *Wii Sports and Wii Fit*, outed only as a game player when her son Marc complained that he was incapable of beating her score in the ski jumping game. Naomi's game play was also downplayed, both by herself and by her mother, as she only played with the *Wii Fit*, and only for the purposes of exercise. In this way we can see that feminine game play exists in tension with stereotyped ideas of play- while girls and women do play, both externally (by sons and fathers) and internally (by themselves) this play is often described in ways that understands it as lesser-than.

Thus, within the space of the household, which we can understand as a primary gateway to technology use and learning for young people, we can see practices at play that produce several realities. Games and technologies are multiple, with the former divided and understood most broadly as hardcore and casual, legitimate or

irrelevant. The game player is also multiple, differently understood depending on normative gender visions of technological expertise. When a boy, like Benjamin, Quinn, or Mason, enjoys violent video games, he is aligning with the normative vision of masculine play, but when young girls enjoy the same games, their status as gamer is complicated through descriptions of their rarity and uniqueness.

The Pew Internet and American Life Project (2008) found that game play was nearly universal across teens. Yet, as my brief discussion demonstrates, any statistical analysis of game play only reveals one reality. Empirical examinations of gendered game play illuminate multiple realities, of games, game players, and game play. As the constitution of video games as gendered objects occurs in many locales, including production, marketing, paratexts like reviews and magazines, arcades, and game controllers, examinations of the ontological politics of different contexts may be very fruitful. Examinations of multiple locations encourage us to question how dominant discourses such as the masculine culture of video games develop “out of a great number of contingencies and forces, [though] there was never a moment or a place where it was decided” (Mol, 1999, p.79). These would align with Carr’s arguments that a masculinist gender bias is self-perpetuating in the historical and economic construction of maleness as the default gender of video games, and would highlight how this bias is enacted through the production of complex of innovations, practices, and discourses (Carr, 2005). There is no stable end point in ontological politics, enactments of identities, bodies, and competencies are open-ended. As such the performance of gaming as dependent on a masculine player is not a given. Indeed, individuals are not just represented in knowledge practices. They also represent themselves. The ways in which this occurs in performances of technological competency along normative gender lines bears further investigation.

### **AGENTIAL REALISM AND VIDEO GAMES: MATERIAL-DISCURSIVE FORMATIONS IN GAME CULTURE**

While ontological politics focuses on questions of being, Barad’s (1999) conceptualization of agential realism refigures both ontology and epistemology, seeking an ‘epistem-onto-logy’ (Barad, 1996, 1998). Inspired by the dichotomies of realism and social constructivism, and of object and subject, agential realism refigures the materially situated character of subjects and the discursively constructed nature of objects as mutually constituted through ‘intra-action’. This is opposed to interaction, which assumes that entities are ontologically distinguishable and have a reality prior to their relationships. Intra-action as a concept points to the inseparability of objects and apparatuses of observation (Barad, 2000). The dichotomy of object/subject is not simply bridged in agential realism, but recognized as entangled with “the simultaneous recognition of the material *and* the discursive” (Barad, 1999, p.2). This approach acknowledges the productive elements of discourse, and positions the material world (the economic, the physical, the corporeal, etc.) within the discursive realm. It considers the consequences of binary characterizations of subject/object, nature/culture, and human/nonhuman. In doing so, this material-discursive approach focuses on how practices are productive and constrained, but not determined by both language and the concrete.

The agency in agential realism has two important implications for feminist technoscience. First, agency in this sense refers to the ways in which nonhuman, human and cyborg forms of agency can push back against one other; “the world kicks back” (Barad, 1999, p.2). Second, the agential aspect points to the issues of accountability and responsibility that are bound up in scientific practices. What is constructed through the apparatuses at work in the production of material-discursive phenomena are both the subjects and the objects, be they scientists, atoms, or the larger public that consumes scientific knowledge. Agential realism implies a recognition of these intra-actions and what they constitute, constrain, exclude, and enable. These technologies of power can allow for particular subjects (for instance the normative masculine *Halo* player) and render other subjects suspect (such as the deviant female *Halo* player).

Barad notes that agential realism is not by definition only applicable to the scientific domain, and also cautions that it may also not be universally germane. As a feminist intervention, agential realism aligns with the move from examining gender issues in science to larger epistemological and ontological questions of the boundaries between nature and culture and notions of agency, the body, and the mind (Rouse, 1996). Parkins (2008) makes a compelling argument for the applicability of agential realism to a feminist fashion studies, and to its extension out to situated locations and enactments of identity. The attunement Parkins highlights is useful in the analysis of video games. She notes that the value of Barad’s conceptualization of intra-action is that it provides a radical vision of contingency because of how it highlights the inseparable character of identity and conditions, text and context. Indeed, “identity formation must be understood as a (contingent and contested ongoing) material process through which different identity categories are formed and reformed through one another” (Barad, 2001, p.99).

This understanding of the mutually constitutive nature of milieus and entities is particularly valuable for the study of video games and gender. Discursive formations around childhood, play, and technology play a key role in notions of gendered game play, particularly around preferences such as collaboration, sociality, and nurturing for girls, and competition, mastery, and violence for boys. This emphasis on gendered preferences in game design and studies has resulted not only in design choices that reflect hegemonic visions of boyhood and girlhood, including the creation of pink and purple games (Jenkins & Cassell, 2008), but also in textual and content analysis of video games, emphasizing racist stereotypes (Leonard, 2006), hypermasculinity (Alloway & Gilbert, 1998), and the hypersexualization of female characters (Kennedy, 2002). However, this emphasis on discourse and language, image and content, does not account for the complex network of material conditions that create a gendered gaming experience for players, even when their own play does not align with these discursive formations. Indeed, an emphasis on the textual displays a tendency to fall into a problematic media effects analysis which does not account for the culturally, historically, and materially situated context of game development, production, marketing, and play, and in turn re-essentializes feminine preferences and masculine proclivities (N. Taylor, 2006).



In response to the essentialization of gender in the focus on game texts, content, preferences, and representation, an agential realism that accounts for the mutually constituted character of the material-discursive may allow for a greater sense of the complexity of the (re)production of both masculinity and femininity in game play. One way in which this kind of nuanced understanding can be gained is through a sense of interrelatedness of not just content and culture, but of play, interaction, context, experience, and access, all of which are marked by discourses and material structures demarcating hegemonic notions of masculinity of femininity.

Barad's approach accounts for the situated character of an array of identities and phenomena, including gendered, racialized, sexed and classed bodies. In the case of my research, the ways in which reality was sedimented to make the world intelligible via particular practices, and by the exclusion of others, were made particularly clear by parents when they discussed the discourses of fear around online gaming in particular. They often evoked several key issues in talking about how they regulate their children's play. Bullying, predators, and adult content in online realms were key concerns, and these tended to be evoked when discussing two groups of players- younger children and girls. For instance, both Lise and Olivia allowed their young sons to play on flash game sites like [miniclip.com](http://miniclip.com) because these contain single-player games. As Olivia said: "One doesn't want them to see things that they shouldn't see, and for Tyler's age, well he's just a little guy, going from a child to being a preteen, and he's still very innocent". Regulation around these issues seemed less prevalent with boys in the older age range of the study, as William notes: "You know it's impossible to regulate. You can get anything you want. And so what you have to do is work on the kid". With older girls, on the other hand, both mothers and fathers maintained a concern with monitoring and limiting certain activities. Adrienne was sceptical of the discourses around the dangers of the Internet, noting: "I don't have those fears at all, I think that they are entirely overstated and embellished and blown up in the media and sort of, those weird 20/20 episodes where they catch a paedophile on the Internet, you know those sorts of things". However, despite her critical perspective on the discourses, and though she was uncomfortable with it, Adrienne monitored her daughter's MSN, *Club Penguin* play, and Facebook Wall, and admitted: "I keep a very close eye on what Kelsey was doing on the Internet, mostly around chats or MSN". Indeed, at the time of the interview Adrienne had deleted MSN chat from the family computer entirely.

Thus, access is directly tied to a material and discursive context, with discourses speaking to the dangers of being a girl online working in tandem with regulatory practices in the home. In the case of Adrienne and Kelsey this is particularly interesting because Adrienne understands herself as a feminist and is cognizant of the problems with the discourses of danger around feminine technology use, and yet these philosophical commitments existed in tension with the desire to protect her daughter from sexually charged chat, vicious gossip, and adult content online. The material-discursive framework that Adrienne navigates as a mother, between her subjectivity as a good mother and as a feminist, amidst even-more inflammatory rhetoric about online predators, leads to a limiting of access for Kelsey that the boys in the study did not experience.

In this way we can see how technological proficiency and comfort is not just a discursive construct. It is perpetuated in concrete, situated ways through local practices that reaffirm and reinscribe particular subject positions around gendered technological use, with rationales that cannot be separated from the discourses that surround these practices. Thus, not only did these mothers grapple with their own multiple realities as 'good' mothers and feminists (among many others), but they also had to operate through practices that were intelligible in, and thus constitutive of, their realities, and turn away from those that were unintelligible.

This is very well demonstrated by the overwhelming popularity of the Wii console among the participants, with mothers often speaking to the images of families playing together and a vision of their own participation in play (which was never envisioned around the other leading consoles). Catherine, who was both dismissive and critical of game play overall, enthused about the console: "The Wii's physical. You get physical.... It's the only one you could really take part in". The actual play of mothers did not tend to mirror this vision. Olivia noted that she didn't in the end participate in their family's play, and Lise as shown above skirted her own participation in Wii play. Interestingly the hopeful purchase of the Wii was enabled by the marketing around this device, which constructed the mother as an acceptable player position. The intelligibility of the mother as player in turn led boys and men in the family to denigrate the system to a lesser status than their PS3s and Xbox 360s. Dean, a single father, didn't have a Wii, and when asked why he had selected two generations of Xbox instead he said: "The Nintendo has always been more of a kid's oriented system". When asked whether he preferred his Xbox 360 or his Wii, Benjamin said without hesitation: "The Xbox. Hands down". His reason was the game *Halo*, which can only be played using the Xbox, and how he had become bored with the easier (read: not hardcore) games on the Wii.

Agential realism allows us to understand how particular subjects, such as good mothers, and objects, such as productive toys, are constituted as intelligible through material-discursive formations around video games, rather than simply through textual analysis. Approaching video games from the lens of agential realism can thus provide for a more complex understanding of the mutual constitution of the material and discursive production of the feminine and masculine game player. Agential realism can allow for an articulation of the intricacy of the many apparatuses, from the origins of the video game within the masculinist institution of ARPANET<sup>4</sup> to the reproduction of gender norms around the home console, that make meaning in material-discursive practices. Agential realism provides us with a lens for understanding how the apparatus and the subject are inseparable. It reminds us that while they are exclusionary, discursive constraints are constantly produced and are thus not determining. In this way, agential realism not only gives us a way of talking about the intra-actions of the material and the discursive, of subjects and of objects. It also gives a way to understand our own scholarly provocations and forays into value-centric design or critical gender analysis as reshaping material-discursive arrangements around video games, through observation and/or production. When we move away from examinations of content and gendered preferences to the situated locales in which games are played

and gender is enacted through bodily performances, agential realism allows us to understand games not as fixed texts but as technologies (Taylor, 2005). As researchers, agential realism makes us accountable for the ways in which we might ghettoize girls through our examinations of gendered preferences and conceptualizations of a stable hegemonic masculinity. This is particularly relevant as these analyses have concrete implications for both girls and boys, with games mobilized in education, which can result in both inequalities and the perpetuation of stereotyped masculinity and femininity in the classroom.

## **CONCLUSIONS**

There has been a failure in game studies to broadly adopt STS approaches. In turn, the STS community has not taken up video games as an object of study. The complexity of the relationships between players and video games as sociotechnical objects make them ideally suited to investigation using STS approaches. On the topic of games and gender, it seems that feminist technoscience provides a number of interesting avenues of analysis. Game studies needs to move beyond any understanding of gendered preferences, play, content, culture, and mechanics separately or through either fixed gender norms or textual determinism. Instead, as all of these dimensions of play are mutually constituted as gender, technology, and power, researchers need to conceive of play as an assemblage, formed by content, marketing, competency, experiences, access, situation, and milieu (Taylor, 2008).

As this brief examination has shown, feminist technoscience understands not just gender but realities as relational, contestable, and in constant flux. An attention to feminist technoscience within video games studies can contribute to the study of contexts and practices over reified categories of gendered preferences or limited textual analysis. Through the concepts of ontological politics, enactment, multiples, mess, and agential realism, this area of critical inquiry provides future directions for a more complex conception of preferences, interests, interactions, and play in video game studies. Feminist technoscience can indicate ways of further understanding nuance and complexity in the ways in which the structural order of gender is regulated and maintained in the construction of video games and their study. However, video game scholars must also be aware of some the limitations and challenges of these approaches.

Some of the challenges of mobilizing feminist technoscience include divergent views between particular thinkers. The most central of these, arguably, is that of agency. While for Mol (1999) agency cannot be assumed because of how agents can be themselves enacted in the realities that may need to be contested, for Barad (1999) agency is not something that is had, by any anyone or anything, but is itself enacted through intra-actions. Agency is the reconfiguration of boundaries, constituents and relations that are constantly produced in any phenomenon, by human, non-human, or cyborg actors. Change is thus immanent. Barad would agree with Mol on some counts, as she posits that subjects and objects do not exist outside of the production of material-discursive phenomena, and thus they cannot be said to have agency. However, for Barad agency is conceptualised as those possibilities of which Mol is sceptical, as she sees agency as the "accountability entailed in refiguring material-discursive apparatuses of bodily production, including

the boundary articulations and exclusions that are marked by those practices” (Barad, 1999, p.7). Thus, we cannot say that even on the most elemental questions there is unity in feminist technoscience, but we can also understand these debated conceptions as productive for further examination into the power held by those that deal with multiples, that may be enacted by the material-discursive formations in which they relate, and that grapple with the conventions of the systems in which they operate.

In sum, despite some of the challenges inherent in mobilizing the concepts of feminist technoscience, all of the thinkers I have discussed share a very important commonality- a political commitment to accountability and responsibility to (re)shape the particular subjects that are constituted through technoscientific practices. As Barad (1999) elegantly says of agential realism in particular, these approaches are “not about representations of an independent reality but about the real consequences, interventions, creative possibilities, and responsibilities of intra-acting within the world” (p.8). This equally speaks to ontological politics. Though the objects of analysis for all these thinkers may be largely unfamiliar to video game scholars, their concepts apply beyond the sphere of medicine or scientific practices or technological adoption. Multiples and agential realism are relevant to the study of video games as sociotechnical objects and broader issues of bodies and identities, subjects and objects, power and accountability, and constraint and possibility, providing exciting new concepts for exploring not only gender and games, but other topics in the field as well.

While actor-network theory is exciting for the richness it provides in accounting for complexity, feminist technoscience also provides ways for accounting for how non-human matter is involved in meaning production, disrupting any dichotomy between passive objects and active human agents while loosening the grip of the pervasive network metaphor. With its underscoring of the agential qualities inherent in all matter, human, cyborgian, and non-human, feminist technoscience also provides a distinctly political approach that encourages the examination of what is excluded and constrained, what is marginalized and what is standard, and what is rendered unintelligible in the realities constructed in the material-discursive formations around video games. Thus, feminist technoscience includes an important ethic, one that directs us to intervene and reconfigure these formations through our own practices when studying video game culture.

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## ENDNOTES

<sup>1</sup> Though there is no consistent definition of a hardcore game or gamer, it typically refers to games with violent content, complex rule sets and assiduous game play expectations. The way in which the hard core is a dynamic term co-constructed alongside the casual can be linked to gendered game play (Harvey, 2009).

<sup>2</sup> Flash games are supported by Adobe Flash, which is a multimedia platform used in web pages to introduce animation, video and interactivity, such as advertisements and simple games. Participants referred to play on a few flash-based games sites such as [miniclip.com](http://miniclip.com) and [addictinggames.com](http://addictinggames.com).

<sup>3</sup> To be 'pwned' is a mutation of the gamer phrase 'owned', which means being trounced by another player or a game. Use of this phrase tends to indicate one's membership in gaming culture. For further information see:

<http://www.urbandictionary.com/define.php?term=pwn>

<sup>4</sup> ARPANET is The Advanced Research Projects Agency Network, which was the early precursor to the Internet as we know it today. Created by a research team at the Defense Advanced Research Projects Agency (DARPA), housed within the U.S. Department of Defense, ARPANET and the computers that power it are run on programming languages that require the hard mastery skills traditionally associated with masculinity, such as planning, logic, technical ability, and abstract thinking, and are embedded in the traditionally masculinist military complex. See Edwards, P.N. (2003.) 'Industrial Genders: Soft/Hard' in Lerman, N. et. al. (eds.) *Gender and Technology: A Reader*. Johns Hopkins University Press.

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