Abstract
The author introduces ongoing research into the representation of ability and disability in digital games. Relevant literature from game studies, screen studies and disability studies is outlined. Two brief examples of textual analysis are provided. The first focuses on materiality, monstrousness and masculinity in the survival horror game Dead Space. The second analysis addresses the conflicting accounts of augmentation present in the science-fiction themed Deus Ex: HR. The issues raised through analysis include the methodological and theoretical difficulties associated with critiquing bodies onscreen during play, and questions of culturally situated interpretation. The need to identify the particular offers of specific theories is considered, and a framework to enable this identification is proposed. This framework is applied to theories of player embodiment, and the most appropriate theory for this particular inquiry is identified. The implications for questions of games, representation, interpretation and ideology, are discussed.

Bodies, Augmentation and Disability in Dead Space and Deus Ex: Human Revolution

Introduction

In this paper ongoing research into representations of ability and disability in digital games is described. Generic horror and science fiction have long explored issues of difference, identity and technology. Many games incorporate these themes, alongside fantasies of bodily alteration, damage and augmentation (technological, viral, medical or magical). Games invent measures of ability, while depicting impaired bodies and disabling acts. Within gaming contexts more generally, ability is often associated with status, while game hardware positions players in particular ways, and assumes particular kinds of bodies and capacities. Likewise, digital games research constructs players and conceptualizes their attributes in particular ways.

The existing research on digital games and disability generally incorporates a medical or educational approach to disability. By contrast, here disability is conceptualised according to humanities-based disability studies literature that addresses the discourses, representations and practices that construct normal, standardized or able bodies and that marginalize or penalize those who deviate from this standard (Davis 2006; Linton 1998; Siebers 2008).

This paper begins with an outline of relevant literature. Two abridged examples of analysis from the ongoing project are shared. The first focuses on the survival horror game Dead Space. The second game analyzed is Deus Ex: Human Revolution.
(Deus Ex: HR). The issues raised through analysis include the relationship between the body onscreen, affect (feeling, sensation), and contextualized interpretation. These issues are then considered in relation to theories of player embodiment. A framework for establishing the most pertinent theory of player embodiment is described, and questions about games and ideology are raised.

Background and Literature review

The impaired and augmented bodies featured in games have received very little critical attention. Meanwhile, when ability in games is discussed, it is generally approached in terms of learning or in-game pedagogy (for a review of the literature see Kirriemuir and McFarlane 2004). Yet damaged and augmented bodies are common in certain game genres, and the need to demonstrate ability during play is frequently paralleled by references to skill and competence at the level of narrative and characterization.

There is a strong tradition of analysing representation within screen studies, yet disability has never received the same attention as other aspects of identity. Notable exceptions include Smith’s work on eugenics discourse in classic Hollywood horror (2011) and various contributions to Chivers and Markotic’s The Problem Body: Projecting Disability on Film (2010). The existing literature on disability, representation and media does not refer to digital games. There is little or no game studies literature that addresses the representation of disability in games. The research on digital games and disability that is available focuses on the production of therapeutic games, or the creation of tools to facilitate access to commercially available games. Accessibility is framed as a technical issue (Bierre, Chetwynd, Ellis, Hinn, Ludi and Westin 2005; Eriksson and Gardenfors 2004; Yuan, Folmer and Harris 2011). Work on accessibility is exceedingly important. A problem is that much of the work in this area relies on clinical or medical approaches to disability, while there are theorists that view the medical model of disability “as a major stumbling block to the reinterpretation of disability as a political category and to the social changes that could follow such a shift” (Linton 1998, p 11).

Game theorists have considered the relationships between games and play, and debated the extent to which a game’s rules might shape its meaning (Kennedy and Dovey 2006; Carr 2007). Theorists have analysed representations of gender and ethnicity in games (eg. Carr 2006a; Grimes 2003; Curlew 2005), and related areas such as narrative in games (reviewed in Frasca 2003). The limitations of textual analysis have been discussed, although in this critique structural analysis has often been conflated with textual analysis, or textual analysis (as practiced within humanities-oriented fields such as film studies) has been confused with content analysis conducted by social scientists. Evidently there is a need for specificity when devising theory and debating methodology. Thanks to the complexity of digital games (as research objects that combine hardware, software, locations, image, sound, genre, play, and social contexts) determining the appropriate theory for a particular inquiry is not straightforward.

Conceptual framing and methodology
The methodology used here combines structural, textual and inter-textual analysis (the approach is described in greater detail in Carr 2009). According to this particular framework, which is adapted primarily from Barthes’ work on narrative structure (1977) and textuality (1974), structural analysis involves considering the game-as-designed. Structural analysis looks to units in the game as system, and the relationships between these units. It encompasses various aspects of a game including its rules, economies, and the ludic attributes of game components. Textual analysis, meanwhile, involves connotation and the game-as-practiced or actualized during instances of play. Following Barthes, interpretation involves connotation (a property of the text) as well as association (a property of the reader, viewer or player). In this framework, the relays between connotation and association (or between text and cultural context) are viewed in terms of reading formations and inter-textuality. For Bennett and Woollacott, inter-textuality involves the construction of reading formations. Reading formations encompass texts and users, and involve “the situationally determined frameworks of cultural and ideological reference which supply the grids of intelligibility through which different groups of readers read and interpret a given text” (Bennett and Woollacott 1987, p 60).

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This framework is only intended to address a small slice of the game as “assemblage” (Karppi and Sotamaa 2012, citing T.L Taylor), although it could presumably be extended. The three parts of the framework are not mutually exclusive. They are overlapping lenses, rather than separate categories. For example, moving from left to right, Lara Croft’s body could be considered as game component that has various capacities in a particular space (structure). Yet various versions of Lara would be experienced during play, and the relationship between her capacities, actions and her characterization has implications for meaning (textuality). The meanings potentially connoted by her body would be more or less pertinent to different players, at different times, in different contexts (inter-textuality). The framework is also useful for thinking through theoretical applicability. To give a brief example, agency could be discussed in terms of structure and design (as an affordance of the game), or as an aspect of play itself, or as something that is supported or constrained in various cultural contexts. The point is not that any particular theory is wrong per se, but that different versions of a theory will best address different aspects of a game, and different inquiries. This issue will be discussed in relation to theories of player embodiment after a brief account of Dead Space and Deus Ex: HR.

**Analysis 1: Dead Space**

This analysis of Dead Space was informed by previous work on survival horror games including Perron 2009 (ed.); Krzywinska 2002; Kirkland 2007. It also draws on screens studies literature on horror cinema, including Williams’ essay ‘Film Bodies: Gender, Genre, and Excess’ (1984). Williams’ work is relevant because it focuses on affect, embodiment and excess, and because it has previously been applied to horror games (Perron 2009a, Carr, Campbell and Ellwood 2006), and because Snyder and Mitchell re-worked Williams’ account of body genres to
investigate the ways that horror films use impaired bodies to generate genre-appropriate affect (Snyder and Mitchell 2010).

The name of Dead Space’s protagonist is Isaac Clarke. He spends much of the game attempting to repair a massive, apparently abandoned space craft named the Ishimura. His role as an engineer frames most of the missions undertaken. Isaac’s attempts to fix the ship are rendered dangerous by the game antagonists – the Necromorphs. These undead yet agile monsters are made from twisted and recycled human flesh. Legs wobble on shoulders. Heads pop out of chests. Tentacles spring from spines. Freud’s uncanny, Kristeva’s abjection and Bakhtin’s grotesque are all applicable. The game features medical and clinical imagery (labs, gurneys, clinics, anatomy posters). There is an obsessed, corrupted doctor to contend with (recalling Smith’s work on horror cinema and the scientific gaze gone wrong – Smith 2011), as well as exposure to questionable medical practices. The ship itself is structured as a wounded body, with themed zones and tasks. For instance, a mission set in one of the lower areas of the ship finds Isaac collecting clumps of waste and ejecting these through a spherical exit into space.

Part of this analysis focuses on the idea of excess, following Williams’ work on excess and affect in horror, as well as the notion of the problematic, and excess as textual symptom (Althussar, as discussed in Storey 2006, p. 57). I looked at Isaac’s deaths as examples of excess, because Isaac rarely just dies. He gets stabbed, slashed, and then ejected into space. Or he is dismembered, then beheaded, then chewed, and then he explodes. His body leaks, splashes and splatters, goes to pieces, struggles and splits. Isaac’s deaths generally involve the puncturing or rupturing of his suit. There are several ways in which the game underlines the importance of Isaac’s suit. At a structural level, it is a reward (find better suits, increase inventory, hit points, etc.). The suit has its own cut-scene. When it is time for Isaac to don a new suit, he saunters into a changing room. When he exits, he flexes his arms, apparently satisfied, in a rare gesture of physical relief or pleasure. The suit is obviously armor. It is designed to keep things out (blades, teeth, claws). It also keeps things in. Without his second skin, Isaac falls apart in very messy ways. This emphatic augmenting of Isaac’s skin suggests an anxious interest in the management of the body’s surface, which has been linked previously to questions of agency, adulthood and self-governance (as discussed by Snyder and Mitchell, 2010, citing Foucault and I.M. Young). Disability theorists Snyder and Mitchell have argued that “the fantasy of bodily control [is] deeply seated in the desire for an impossible dominion over our own capacities” (2010, p. 186). They propose that these fantasies and anxieties persist thanks to “shared cultural scripts of disability as that which must be warded off at all costs” (2010, p 186).

Dead Space combines fantasies of threat, bodily integrity and the monstrous, with an interest in the depiction and performance of skill and ability, and the construction and testing of measurable ability. The analysis suggests that it would be productive to further explore digital game depictions of prosthetic skins, imperilled masculinity, and the ideology of ability. According to Siebers, “The ideology of ability is at its simplest the preference for able-bodiedness. At its most radical, it defines the baseline by which humanness is determined” (Siebers, 2008 p. 8).

Analysis 2: Deus Ex: Human Revolution
*Deus Ex: Human Revolution* is a science fiction themed game that shows social roles and practices shifting in the wake of evolving technologies, and it explores these changes in relation to bodies and status. The game depicts a social context where norms and notions of deviancy are in flux and where the previously advantaged (non-augmented bodies) are at risk of reclassification. In other words, the game makes it clear that disability and ability are socially constructed.

The game begins with the protagonist Adam Jensen being terribly injured at work. He is reassembled and extensively augmented on the orders of his employer. The game structures augmentations as a strategic necessity. So, in addition to being rebuilt by his boss, he is further augmented by the player. Jensen’s consent was not sought in either case - and yet other characters in the game keep confronting him about his supposed choice.

The game’s narrative (broadly defined) depicts augmentations from a variety of conflicting perspectives. Augmentations are described as (1) luxury consumer items, (2) as dehumanising, or (3) as a practical and economic necessity. The depiction of augmentation as consumer item is most evident in corporate contexts and shiny commercial outlets. In these contexts (such as the LIMB clinics and Sarif headquarters) augmentations are associated with volition, self definition, advantage and self improvement. Meanwhile, from the perspective of the resistance, augmentations are associated with perverted authority (‘playing god’), transgression and diminished integrity. The most ambivalent perspective on augmentations within the game could be described as pragmatic or perhaps ‘augmentations as lived’. This perspective is expressed in ambient dialogue (civilians and bystanders chatting about the pros, cons, risks and pressures associated with augmentations) and in quests such as ‘Rotten Business’ that includes references to workers being forcibly augmented.

In *Deus Ex: HR* augmentations offer social and economic advantage and yet render the recipient subject to manipulation. There are several climactic instances where augmented bodies are remotely controlled, or lose self-control, due to malevolent interference, including a hacker terrorist who is hacked in turn, and forced to shoot himself. When non-player characters comment on Jensen's augmentations, most refer to augmentation as a personal choice with ethical implications and risks attached (see conversations with the William Taggart character, for example). In other words, Jensen is regularly confronted by assumptions that nullify or contradict his experience. While playing I felt disconcerted when Jensen apparently complied with the misrepresentation of his experience by other characters. For this reason (for this particular player analyst) *Deus Ex: HR* raised questions about the links between lived experience, affect and interpretation. It was possible to explore these links using Paterson and Hughes essay on embodiment and discourse.

In Paterson and Hughes paper ‘Disability Studies and Phenomenology: The carnal politics of everyday life’ (1999, *Disability and Society*) the authors explore the relationship between discourse and embodied experience. They use phenomenological theory in combination with autobiographical material in order to describe the experience of a non-standard body encountering normative social practices. They analyze these experiences while referencing Leder’s description of
the absent body (Leder 1990). Absent bodies are those that fit so well within a particular context that they are not consciously experienced. Leder contrasts the absent body against the ‘dys-appearing body’, that is, a body that is consciously experienced, exposed or rendered a problem in certain contexts. Leder’s work has been applied to questions of player embodiment in FPS games (Young (2005). What interests me is the ways in which Jensen’s body dys-appeared as a result of other characters’ assumptions or hostility. The dys-appearance of Jensen’s body triggered the disconcerting dys-appearance of mine, because it resonated with aspects of my experience. The point is that affect and interpretation are potentially influenced by prior experience. Experience is embodied, and bodies vary. While player embodiment has meant different things to different theorists, the issue of variability has rarely been discussed.

Discussion

Discussing the issues raised by the above analysis of *Dead Space* and *Deus Ex: H.R.* entails making reference to theories of player embodiment. This is complicated. A thorough review of the literature on player embodiment is beyond the scope of this short paper, but for the sake of this discussion suffice it to say that the literature conceptualizes embodiment in different and not necessarily compatible ways. It covers an array of phenomena including the player’s projection into a game-world, issues of presence, affect, investment, identification (each defined in various ways), and the player’s relationship to game space, objects, tasks and role. These various accounts are informed by film theory and psychoanalysis, phenomenology, psychology, different versions of cognitive theory, and performance studies (See, for example, Gee 2008; Norgard 2011; Linderoth and Bennerstedt 2007; Wilhelmsson 2006; Crick 2011; Young 2005; Karppi and Sotamaa 2012; Farrow and Iacovides 2012; Carr 2006). Gregersen and Grodal’s work on player embodiment, affect and cognition (2009) has informed the analysis of horror games and affect (Perron 2009a) and yet it has limited relevance to this inquiry. Firstly, because it is not clear how corporeal variability fits within a cognitive account of embodiment. Secondly, it would not be compatible with this study’s conceptual framework, because one of the significant contributions of disability theory is that it offers an alternative to clinical perspectives and epistemologies. My point is not that various theories of embodiment are more or less correct in some absolute sense. The point is that I need an approach to embodiment that is coherent in terms of the conceptual framing of this study, and that will help to address the issues that the analysis has raised.

The analysis of *Dead Space* and *Deus Ex: H.R.* has raised questions about (i) interpretation and the variability of embodied experience, and (ii) affect and the body as represented onscreen. To refer back to the framework that was discussed earlier in this paper, these are issues that arise at the overlap between connotation and association. For this reason, a pertinent theory of embodiment would need to sit on the ‘associations and contexts’ side of the table. For the sake of conceptual coherence, it would need to combine comfortably with the particular model of inter-textuality that I have employed, with its emphasis on culturally contextualized interpretation.
For these reasons the version of embodiment that looks most appropriate to this inquiry is the one developed by Haraway (1994) and previously applied to games by Dovey and Kennedy (2006). Haraway discusses embodiment in terms of situated knowledge. Knowledge does not emerge in a vacuum. It is generated from particular perspectives, places, contexts and bodies. In the context of this enquiry, then, the issue is not my identification with either avatar, or my imaginative, cognitive, or psychoanalytic investment in their respective worlds. The issue would be that interpretation itself is embodied. For example, due to its depictions of augmentation and its themes of consent, medical intervention and employment, as well as the resemblance between stealth (as a game mechanic) and the notion of ‘passing’, I want to claim Deus Ex: HR as a game ‘about disability’. That is an embodied interpretation, informed by my lived experience.

Siebers references Haraway when discussing embodiment, situated knowledge and ideology in order to argue that “people in marginal social positions enjoy an epistemological privilege that allows them to theorize society differently” (Siebers, 2008 p 22) – although any such insight does not guarantee the advantages that the term ‘privilege’ might suggest. While some theorists would argue that ideology is by definition all encompassing and impenetrable, Siebers suggests that “oppressed social locations create identities and perspectives, embodiments and feelings, histories and experiences that stand outside of and offer valuable knowledge about the powerful ideologies that seem to enclose us” (Siebers, 2008 p 8; see also bell hooks’ work on talking back and speaking from the margins).

The spatial aspects of Sieber’s description of ideology in general (as an envelope, with an outside) are suggestive in light of the final scenes in both Dead Space and Deus Ex: HR. In each game, the protagonist begins with a place in the world (he is employed, he has a partner, or at least an ex-partner), and yet each ends the game outside of his world’s particular reality. It is as if, thanks to their extraordinary experiences, both Isaac Clarke and Adam Jensen end up as virtual astronauts adrift on the outside of Sieber’s envelope. Isaac makes it to the conclusion of Dead Space physically intact but psychologically damaged to the extent that he ends the game in a cut-scene where he becomes the game-equivalent of an unreliable narrator (and the extent of his alien instigated dementia is explored in Dead Space 2). Deus Ex: HR, meanwhile, offers four different possible endings, and players who watch all four versions are awarded with an achievement trophy. Having taken on the subject position of a disabled protagonist, Adam is ejected from the game’s fictional world in order to narrate privileged (i.e. external) insight into four possible futures, none of which look very hospitable.

Conclusion

This study has involved analysing cyborgs, undead monsters and unfortunate protagonists in order to explore representations of ability and disability in digital games. The analysis undertaken thus far has raised a set of problems that will be investigated during the remainder of the project. These problems include the issue of situated knowledge and the implications for the methodological figure of the player-analyst. A theory of representation in games will need to be further developed. The
issues raised by the analysis of *Dead Space* and *Deus Ex: HR* indicate that it would be productive to further explore the ‘ideology of ability’ (as described by Siebers, 2008), which in turn suggests the need to investigate theories of ideology in games more generally. There is also scope for further exploration of the relationship between representations of ability, agency, and gender in games - as suggested by the anxious fantasies of cohesion and loss that run through *Dead Space*. The existing analysis also suggests that there is work to be done on the issue of games as science fictions. Science fiction is not a game genre in the usual sense, and yet both *Dead Space* and *Deus Ex: HR* engage with themes long associated with science fiction, including the relationships between identity, the body, emerging technologies, and social contexts.

ACKNOWLEDGEMENTS

This research is undertaken with the support of the Arts and Humanities Research Council (UK), as part of a project titled ‘Digital Games: Representations of Disability’ (April 2013 – February 2014). Essay length versions of the analysis of *Deus Ex: HR* and *Dead Space* are currently being completed. The project is documented at http://playhouse.wordpress.com/category/project-digital-games-representations-of-ability-and-disability

NOTE – correction

In the original version of this paper I referred to *Deus Ex: Human Revolutions* (plural) in error, because that's what I thought it was called for ages. Given the game’s references to disability, bodies and technology, the plural version made sense to me, and so it stuck.

GAMES CITED


*Dead Space 2*, released 2011 Dev Visceral Games, Publ Electronic Arts.


REFERENCES


