Techno-Giants: The Giant, the Machine and the Human

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ABSTRACT
The relationship between humankind and technology is fundamental, but also a longstanding source of unease, particularly as that relationship has become ever more intimate and irreversible. In this paper, I connect this age-old anxiety with the age-old figure of the giant, a monster similarly intertwined with ancient questions on the boundaries of humanity. I focus on two examples: the Human-Reaper larva in *Mass Effect 2* and Liberty Prime in *Fallout 3* and *4*. Although different in approach, these examples demonstrate a use of a phenomenon I call the 'techno-giant' to explore and reflect the powerful anxieties in our cultures to do with the future of the human–technology relationship. In particular, both examples expose the human–nonhuman boundary as being exceeding difficult to define and place, despite a constant desire to. The figure of the giant offers a powerful focal point for these representations.

Keywords
technology, giants, monsters, cyborgs, robots, androids, mechas, posthumanism, transhumanism, abject, satire, nostalgia, retrofuture, *Mass Effect*, *Fallout*

INTRODUCTION
Our relationship with technology has only become more intimate in recent decades. But alongside that relationship has always been an anxiety, one not often identified but which is concerned with the boundary between the human and the nonhuman. At what point does a human who is augmented and repaired by technology cease to be human? When does a machine become human enough to be considered *as* human? The cyborg was (and still is) one of the central battlegrounds for this question, a boundary-blurring entity that "has no origin story in the Western sense", according to one of the cyborg's most influential theorists, Donna J. Haraway (1991, 150). In her 'Cyborg Manifesto', Haraway states that her "cyborg myth is about transgressed boundaries, potent fusions, and dangerous possibilities" (1991, 154), and also links the cyborg to the monster, which she argues has "always defined the limits of community in Western imaginations" (1991, 180). Haraway's description of the cyborg is also in many ways relevant for other mixtures of human and technology: the android, the humanoid or anthropomorphised robot, the mecha controlled by humans, and so on.

This paper is devoted to one of the most recent developments in the long history of the giant. 'Giant' here is defined broadly. The term itself is thought to derive from the ancient Greek *gigas*, referring to the Gigantes of Greek mythology, who were known more for their excessive strength and power (see Gantz 1993, 445–54) than the excessive *size* we associate more with giants today. Still, across many European languages, the word 'giant' and its various cognates and derivatives refers broadly to a mythical human of extraordinary size (and often strength). Similar concepts can often be found in many non-European languages too. But I am not interested here in drilling

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into etymological concerns. That is, whether an entity is explicitly called a 'giant' or is drawn directly from mythology which concerns giants is not a consideration.

For this paper, what is instead pertinent is understanding the giant as *a being who is recognisably human or humanoid, but larger than normal human limits would permit*. This position as a boundary-defying human is what is vital to the anxieties the giant embodies. Jeffrey Jerome Cohen's important book *Of Giants*, for example, tellingly begins "[h]is body *an affront to natural proportion*, the giant *encodes an excess* that places him outside of the realm of the human" (1999, xi, emphasis added). "The giant is humanity writ large" (1999, xii).

As we question our growing relationship with technology, our media and art have not lacked for giant robots, giant mech-suits for humans and encounters with androids and cyborgs. Anime and manga featuring mecha-giants have a long history, with hugely popular examples such as the Gundam franchise (1979–present) and *Neon Genesis Evangelion* (Anno 1995–1996). In the West, there have also been highly successful adaptations, remakes and original entries of this genre, such as *Transformers* (Bay 2007) and *Pacific Rim* (del Toro 2013) to name only two examples. Although they find fewer giants in their number, cyborgs and androids also permeate our popular culture, asking similar questions, from novels like *Do Androids Dream of Electric Sheep?* (Dick [1968] 1996) and its film adaptations (Scott 1982; Villeneuve 2017), to films like *The Terminator* (Cameron 1984), *RoboCop* (Verhoeven 1987) and *Ex Machina* (Garland 2014), as well as television series like *Westworld* (Nolan and Joy 2016–2020).

It is clear that our relationship with technology is often a significant point of contention within our cultures, and games are not exempt from this battleground. Science fiction author Philip K. Dick brings this tension to the fore when in a speech he feels compelled to ask:

> What is it, in our behavior, that we can call specifically human? That is special to us as a living species? And what is it that, at least up to now, we can consign as merely machine behavior, or, by extension, insect behavior, or reflex behavior? ([1972] 1995, 187)

It is through these tensions that the boundaries of humanity and what the nature of our relationship with technology should be are questioned, challenged and reinforced. According to Ingvil Hellstrand, much of this in modern science fiction is achieved through the "not quite human-ness" (2016, 251) of entities like cyborgs and androids which play with notions of Othering, passing (as human) and performativity and, in doing so, expose "the ways in which the notion of human ontology is fixed by regulatory frames for recognition and belonging" and "unsettle [that] notion of fixity" (2016, 264).

This uncanny blurring of the boundaries of identity along with the fact that so many of our fictional giant robots are humanoid brings in the historical notion of the giant, which Cohen calls the "Intimate Stranger" (1999, xi). For Cohen, the giant is a being who "appears at that moment when the boundaries of the body are being culturally demarcated" (1999, xii). Like the giant in Cohen's reading, the androids and cyborgs Hellstrand examines particularly disturb the boundaries of the *body*. In this paper, then, I will explore how the age-old figure of the giant manifests around these questions of technology and what it is to be human when our humanity is so frequently 'augmented' and altered by technology. Merging these threads, what happens when we interact with giant robots, cyborgs or androids?

This is a broad and disparate topic and that is reflected in the two examples I have selected. At the least, I will explore two examples of techno-giants within two popular science fiction franchises. 'Techno-giant' is a catch-all term I am using here that refers to a humanoid giant with some fundamental relationship with technology. Here I should briefly distinguish between my working understanding of cyborgs, robots, androids and mechas. There are certainly not intended as prescriptive definitions, but more as points of reference going forward.

> **Cyborg**: An entity comprised of a mixture of organic and biomechatronic body parts or, as described in the paper which coined the term, "the exogenously extended organizational complex functioning as an integrated homeostatic system unconsciously" (Clynes and Kline 1960, 27).
>
> **Robot**: A machine designed to carry out a series of tasks autonomously. Usually, especially in the contexts I am interested in, it is a computational machine whose tasks are programmed in, but whose tasks are physically based (else it would be simply called a computer). The term was coined in Karel Čapek's play, *R. U. R. (Rossum's Universal Robots)* ([1920] 2004) to essentially mean 'mechanical slave', although the robots depicted in the play would more readily be categorised as androids in today's usage.
>
> **Android**: An extremely advanced robot designed to imitate a human (behaviourally and aesthetically) as closely as possible, often becoming almost entirely indistinguishable. Distinguishing the android from the human often becomes central to the text when an android is present, such as in *Do Androids Dream of Electric Sheep?* (Dick [1968] 1996).
>
> **Mecha/mech**: Large humanoid robots piloted by a human sitting inside (or on top, etc.) of it, typically with powerful armaments. Essentially highly advanced vehicles but distinguished from vehicles by the fact that they are humanoid (usually meaning they are bipedal and in roughly human proportions, with the human pilot often sitting in a cockpit in the place of the mech's head).

Androids and cyborgs tend not to be giant, instead focusing on blending in with other humans as successfully as possible, but robots and mechas very often are.

The first example I examine is the Human-Reaper larva in BioWare's *Mass Effect 2* (2010). It offers an interesting instance of a kind of Reaper—the primary threat of the series—which, through the systematic harvesting of humans, attempts to create a new version of its kind that is built from an undefined 'human essence'. Here, I consider what this confrontation says about the relationship between humans and technology and the boundary between human and nonhuman (or organic and inorganic, to use the series' terms).

The second example is the satirical robot Liberty Prime in Bethesda Game Studios' *Fallout 3* and *4*. The *Fallout* series offers a different and interesting way to consider how we think about our present anxieties regarding the future, by offering a treatment of a retrofuture: what a future envisaged in the 1950s United States might have looked like. Through Liberty Prime, I examine how the series explores this post-apocalyptic retrofuture via nostalgia, satire and irony. Through this exploration, I argue that the series criticises and asks questions of our present nostalgias and of the potential futures we might be headed towards.

Methodology

These analyses are conducted using a 'close-playing' approach (see Aarseth 2003; Bizzocchi and Tanenbaum 2011; Consalvo and Dutton 2006), leading to a hermeneutic analysis that combines examination of the games' constative elements alongside an understanding of the games-as-played.

These two examples were selected primarily because they take quite different approaches to the techno-giant, while converging in interesting ways. Other examples that were considered during my initial research and which would make for interesting studies include: Sahelanthropus from *Metal Gear Solid V: The Phantom Pain* (Kojima Productions 2015), a mecha named after an extinct proto-hominid species; the Titans in *Titanfall* and its sequel (Respawn Entertainment 2014; 2016); Andross in his various appearances in the *Star Fox* series (1993; 1997; 2002; 2005; 2006; 2016; 2017); and 'iron golem'-type giants such as Koloktos in *The Legend of Zelda: Skyward Sword* (Nintendo EAD 2011), Gohdan in *The Legend of Zelda: The Wind Waker* (Nintendo EAD 2003) and Iron Golem in *Dark Souls* (FromSoftware 2011).

So digital games do not lack for such techno-giants and, as such, this paper is not intended to be a comprehensive account of the phenomenon. Rather, it is meant to shed light on two different manifestations of the techno-giant, exploring the strategies used and the effect on the games' meanings. I hope that this will serve to underscore the significance of this phenomenon and inspire further scholarship on it.

SYNTHESIS: THE HUMAN-REAPER LARVA IN *MASS EFFECT 2*

"No glands, replaced by tech. No digestive system, replaced by tech. No soul. Replaced by tech. Whatever they were, gone forever" (BioWare 2010). Mordin Solus in the *Mass Effect* trilogy (BioWare 2007; 2010; 2012) attests in this quotation to the anxieties previously raised, speaking to the tension throughout the series between machine and human via the distinction between 'synthetic' and 'organic' beings. As a seemingly rational and intelligent geneticist, doctor and professor, Mordin should perhaps be one of the characters most well-versed in and excited for the advantages that technology can provide for the augmentation of the living. And yet discussions with him reveal a deep anxiety about the relationship between organics and synthetics. The previous quotation comes from dialogue between the player-character, Commander Shepard, and Mordin, and if the player then asks Mordin what the problem with replacing failing parts with technology is, his response is telling:

> Disrupts socio-technological balance. All scientific advancement due to intelligence overcoming, compensating, for limitations. Can't carry a load, so invent wheel. Can't catch food, so invent spear. Limitations. No limitations, no advancement. No advancement, culture stagnates. Works other way too. Advancement before culture is ready. Disastrous. (BioWare 2010)

For Mordin, technological advancement and human limitation need each other, but there is a necessary balance to be struck. This dichotomy plays out in various arenas throughout the trilogy, with the two primary enemy factions being the geth and the Reapers.[1]

Both the geth and the Reapers are synthetic creatures (or 'synths') created by organic species ('organics') for their own advancement. Quarians made the geth as labourers and foot soldiers shortly before the events of the series, while the Leviathans created the Reapers hundreds of millions of years prior as an artificial intelligence (AI) whose purpose was to solve the issue of the Leviathan's thrall species inventing too-highly-advanced robots which subsequently betray their creators and wipe them out. Both cases stand as warnings against the creation of more and more intelligent synthetic

Figure 1: Three Reapers attack London in *Mass Effect 3*.

Figure 2: The reveal of the Human-Reaper larva in a *Mass Effect 2* cutscene.

assistants. But while the geth are typically human-sized, the Reapers pose a threat that is far more sublime. In length, they measure anywhere from a few hundred metres to over two kilometres, dwarfing the peoples and cities they attack (Figure 1).

But while certainly gigantic, the Reapers are not humanoid, instead resembling their Leviathan creators. However, in *Mass Effect 2*, this changes. Throughout the game, a species called Collectors abduct humans from colonies on the edge of the Terminus Systems area of the galaxy. They are taken to the Collector Base, and much of the game revolves around trying to find and infiltrate that base. Once there, the player discovers the purpose of the abductions: human DNA is fatally extracted from them and used in the construction of a giant Human-Reaper which, though still incomplete, awakens as the game's final boss (Figure 2).

But before it activates, the player may ask their ship's AI, EDI, about the Human-Reaper:

> **Shepard**: They're building it to look like a human. Why?
>
> **EDI**: It appears that a Reaper's shape is based on the species used to create it.
>
> **Shepard**: Reapers are machines. Why do they need humans at all?
>
> **EDI**: Incorrect. Reapers are sapient constructs, a hybrid of organic and inorganic material. The exact construction methods are unclear, but it seems probable that the Reapers absorb the essence of a species, utilizing it in the reproduction process. (BioWare 2010)

The ambiguous notion here of the "essence of a species" harks back to Mordin's mention of a "soul", suggesting that within the *Mass Effect* universe, characters perceive a fundamental and intrinsic but intangible difference between organic and synthetic beings. By using some unknown technique to harvest an organic being's 'essence' and transpose it into a synth, the game's boundaries between human and nonhuman are blurred, and the result is abject.

Indeed, the whole process and aesthetic of the Human-Reaper appears as a reverse abjection. Julia Kristeva describes the encounter with refuse and corpses as abject because they "*show me* what I permanently thrust aside in order to live […] Such wastes drop so that I might live, until, from loss to loss, nothing remains in me and my entire body falls beyond the limit" (1982, 3). While abjection is about *expelling* that which is not the subject in order to establish borders between subject and object, the Human-Reaper is suspended by tubes pumping liquefied human corpses into it. Despite being made entirely of machinery, it also resembles not a *living* human, but a corpse. Instead of being totally covered in metal plating like skin, or being entirely skeletal, it is partly skeletal and partly covered in skin-like plating. The result is the grotesque appearance of a fresh corpse with bits of flesh and some muscles still intact and visible.

The fact that this Human-Reaper is also colossal in size makes its macabre features all the more apparent; horrifying yet morbidly fascinating. "The border has become an object" Kristeva says (1982, 4), and there seems no stronger manifestation of that object than this Human-Reaper, which, within the *Mass Effect* universe, clearly "does not respect borders, positions, rules" (Kristeva 1982, 4). The Human-Reaper is more disturbing, more threatening than the other Reapers precisely because it threatens the intrinsic humanity and human exceptionalism of the series (see Figure 3) and exposes the border as arbitrary. At the same time, it is just as gigantic and threatening as other, non-humanoid Reapers. Other Reapers can comfortably be cast into the category of other-than-human, but the Human-Reaper cannot. While it does not look so similar to a human as to be mistaken for one, like an android, it is built not by some other organic race to simply scare humans, but by an AI using human 'essence' to create this giant, synthetic, artificially-rotting pseudo-zombie.

In this way, the Human-Reaper of *Mass Effect 2* epitomises an uneasiness within the game's universe with the fusion of humanity and technology. The use of human 'essence' here reveals the anxiety in approaching and crossing the boundary between organic and synthetic. And, because of the vagueness of what the 'human essence' is, it also reveals the difficulty in drawing that border at all. When the giant Human-Reaper appears, therefore, it must be destroyed in an attempt to resolve this category crisis.

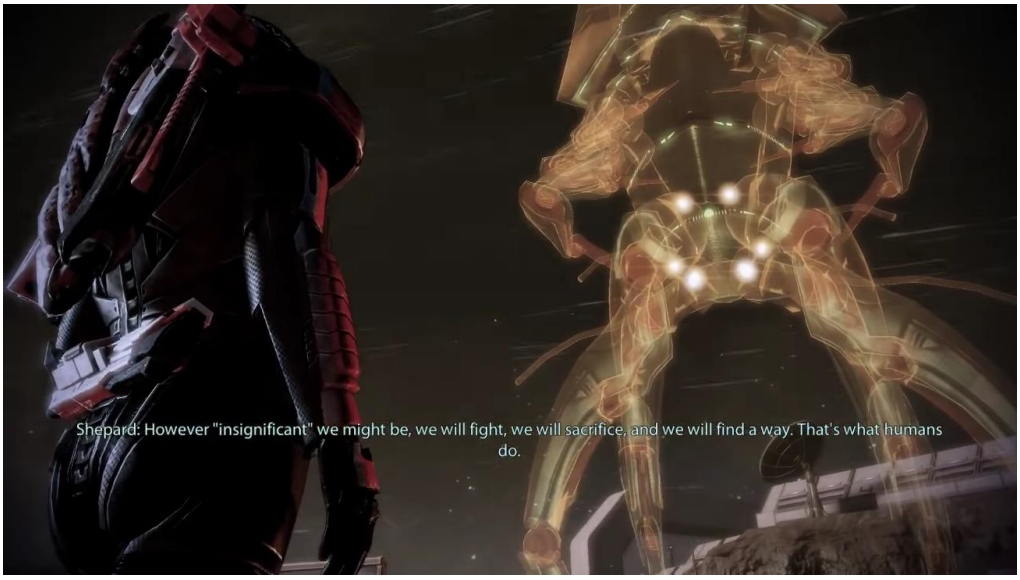

Figure 3: Shepard demonstrates the series' human exceptionalism in a cutscene confrontation with a hologram of the Reaper Harbinger at the end of *Mass Effect 2: Arrival* (BioWare 2011).

But perhaps most interesting is *how* it must be destroyed. "It's too big for our guns", Shepard says, "EDI, find me a way to blow this thing to hell" (BioWare 2010). EDI recommends that Shepard shoot the tubes funnelling human remains into it, as they are also what support it structurally while under construction. It is not by coincidence that the Human-Reaper must be destroyed by severing its supply of human essence, symbolically cutting off the unthinkable link between the human soul and the synthetic machine. This method of fighting also emphasises the notion that the human soul is something that must be *innate* in a being. The Human-Reaper necessarily finds its soul externally, and so once that external source is removed, the giant is destroyed entirely.

However, while symbolically significant, the slaying of this giant does not resolve the category crisis. Jaroslav Švelch argues that players contain monsters in digital games by bringing them under their informatic control. That is, players are "expected to grasp their algorithms, discover their weak spots, and avoid their special attacks" (2013, 201). Even if digital game bosses do "receive special treatment from game designers" (2013, 202) in order to try and retain some of the "epistemological challenges" of "traditional conceptualizations of monstrosity" (2013, 200), both the player and the boss are still ultimately "subject to the algorithmic logic" (2013, 202). For Švelch, the monster cannot pose a challenge to these socio-cultural boundaries if its monstrosity remains neatly contained within the system of informatic control. This line of thought holds true for the Human-Reaper larva. While a significant and unique boss battle within the series, it is still a threat that is ultimately deposed by use of the game's core mechanics: moving, taking cover and shooting at things.

That is not to denigrate the symbolic importance of the depiction of the Human-Reaper larva and its position within the gameworld, however. Instead, what it shows is something broader, that the trilogy as a whole is unable to resolve its organic/synthetic category crisis. The emblematic giant is destroyed within the logic and mechanics of the game, and yet the Reapers and the geth remain a threat both physically and philosophically. The real attempt at a solution comes at the games end, in which it can envisage four ways forward: destroy all synthetic life, take ultimate control of the Reapers, merge the 'essence' of all organic and synthetic life together, or walk away and allow the Reapers' cycle to continue.

But these, then, are not ludic options: the player selects their choice and then watches a cutscene. The episode with the Human-Reaper larva in the previous game represents an attempt at resolving the category crisis at the heart of the trilogy in ludic terms that fails. The Human-Reaper larva remains abject in its depiction and in its representation of the threat to the boundary within the series, but its defeat does not represent a solution. Karl Steel links medieval thought on monsters to notions of essential humanity in a way that resonates with this example: "By seeking certainty, humans have lost it; they have had to think through the conditions of their human existence, discovering through the monster the speciousness of their claims for essential difference" (2012, 269). By attempting to demark a difference between organics and synthetics through its giant, the *Mass Effect* series cannot but conclude that such a difference is arbitrary. Or, at least, if there is a difference, that the boundary can never be drawn with certainty.

THE ROBOT DEFENDER OF YESTERDAY'S LOST TOMORROW: LIBERTY PRIME IN *FALLOUT 3* AND *4*

The *Fallout* series (Interplay Productions 1997; Black Isle Studios 1998; Bethesda Game Studios 2008; Obsidian Entertainment 2010; Bethesda Game Studios 2015) has long been of interest to scholars for its depictions of a post-apocalyptic retrofuture. The series' premise can be summarised as such:

> The *Fallout* world exists in an alternate timeline that completely diverged from the real-world timeline after World War II. From this split until the Great War in 2077, a stylized representation of 1950s American culture (with more advanced technology) dominated the *Fallout* world. ('*Fallout* World' 2018)

The Great War refers to the culmination of increasing tensions between the USA, USSR and China over the course of a "130-year Cold War (which occasionally turned hot), [which] saw American defense companies thus unchecked by the lack of an existential security threat, produce tools of war only imagined in our world's mid-twentieth century" (November 2013, 302). "The Great War started and ended on Saturday, October 23, 2077, when nuclear weapons were launched by all the nuclear-capable nations of the *Fallout* world (mainly from the United States, China and the USSR)" ('Great War' 2018), plunging the world into a nuclear apocalypse and forcing the few survivors into pre-prepared subterranean vaults.

Many have pointed out the elements of American society that the games criticise and satirise, and the cultural anxieties that are exposed and played with. Joseph A. November, for instance, argues that the series comments on how "Americans struggled to reconcile their desire to create new possibilities through the development of new technologies and their concern that the process of pursuing such technologies would erode civil liberties and indeed American values" (2013, 298). Kathleen McClancy observes "two imaginary histories" posited by the games: "one in which the future of the Fifties came to pass, and one in which that future was destroyed" (2018). "Even as the games revel in an aesthetic that celebrated the possibilities of atomic technology, the continual reminders of the destruction that technology created undermine that aesthetic" (McClancy 2018). Martin Pichlmair describes these notions of duality and contradiction as a "mosaic of the future" (2009, 107), a world which "is in a constant state of transition" (2009, 111). The ironic, satirical approach means that the game is able to evoke nostalgia and simultaneously critique that nostalgia in a "post-September 11th period [which] has been defined to a large extent by a resurgence of nostalgia for the early Cold War period and the long 1950s" (McClancy 2018).

This subject has received much scholarly attention and so it is not my intention to re-tread those arguments. Instead, I will focus on a more specific aspect of it by

considering how the giant plays a role within this ironic, satirical, nostalgic retrofuture paradigm through one of the most recognisable and humorous figures of *Fallout 3* and *4*: the all-American, democracy-loving, communist-hating, Chinese-destroying giant robot, Liberty Prime. "I am Liberty Prime. I am… America", he declares in *Fallout 4*.[2]

Figure 4: Liberty Prime in *Fallout 3*.

And who better to represent the United States? Originally built by a partnership of two private robotics companies, RobCo Industries and General Atomics International, for the US army to use in their efforts to liberate Anchorage from the Chinese in 2072, Liberty Prime is programmed to deliver a "mixture of patriotic propaganda messages and incredible firepower to ensure victory" (Hodgson 2009, 81). At 12.19 metres tall, he towers over the field of battle. He requires vast amounts of energy to power, but can rain hellfire over the enemy in the form of dual head-mounted energy beams (laser eyes, essentially), guns and endless explosives. In other words, Liberty Prime is a rootin'-tootin', commie-shootin' distillation of the American values of excessive size and firepower, unbridled private enterprise, and blind, unshakable patriotism.

As a robot, Liberty Prime satirises American patriotism. His pre-programmed phrases praising democracy and condemning China and communism seem to mock real-world American patriotism and attitudes to socialism. He exaggerates the ferocity and closed-mindedness with which the stereotypical American will parrot patriotic phrases, sing the praises of the values of freedom, liberty and democracy, and demonise anti-capitalist worldviews (particularly socialism and communism). And all without a hint of irony or self-awareness, lending a sense of a robotic (shall we say) inability to consider alternate perspectives or engage in self-criticism. Of course, this is an American developer criticising this in an ironically ironic, self-aware, self-critical manner. But what is Liberty Prime's role as a giant humanoid? In what follows, I will argue that what this robot offers in its role as a giant is the following:

- A critique of the 'ideal' American man of the 1950s retrofuture.
- An anxiety towards the catastrophically destructive nature of technological advancement brought to the fore during the Cold War.
- An anxiety towards American military fetishism and the power lent to the military-industrial complex by the upholding of a constant existential threat to the US way of life.

In many of the ways discussed previously, Liberty Prime can be read as the ideal man of the future of 1950s America. He's tall, he's strong, he upholds democratic values, he's not afraid to face up to the Reds and he shoots lasers from his eyes. Not entirely unlike DC Comics' Superman—laser eyes and all—whose cultural position as paragon of American values (at least, perceived, idealised and/or traditional values) is well-established (e.g. Engle 1987; Gordon 2017). Liberty Prime embodies the promise of a glorious future enabled by nuclear technology. And yet, at the same time, he is everything the American man of the 1950s fears. M. Keith Booker speaks to the paradox of 1950s American masculine ideals:

> [E]ven 'successful' Americans were caught in a crushing double bind of alienation and routinization. On the one hand, they were terrified of being different, of not living up to the images of normality constantly beamed into the new television sets in their suburban living rooms; on the other hand, they were terrified of losing their individuality altogether, thus joining the series of anonymous and interchangeable cogs that made up the gears of the corporate machine. (2002, 9–10)

And within this anxiety is a metaphor of "interchangeable cogs", "gears" and "the corporate machine" that finds a fitting depiction in *Fallout* as a robot. For while Liberty Prime embodies many American values, he demonstrates those very same values to a *worrying* extent. His height, size and strength make him vastly different from other Americans, and yet his pre-programmed parroting of patriotic phrases makes him incapable of the free thought and genuine individualism that is championed in those American ideals. His hatred for communists is pre-programmed and therefore blind, which further strips his free thought and individualism. His firepower is taken to a dangerous extreme and includes the ability to fire mini-nuclear missiles, an unsubtle reminder of the very technology that brought the world to ruin with its excessive power.

Dana Oswald's analysis of giants in medieval English literature is worth raising here, because she talks about the giant as "that which man both abjects and desires: his physical excess is both gross and aspirational" (2010, 160). Oswald argues that the giant's primary purpose "is to act as the limit of undisputed masculinity" (2010, 161). At the same time as "exhibiting those attributes that cannot or should not be incorporated in the civilized world […] he is also foundational; he both prefigures and destabilizes masculine identity" (2010, 161). In taking the desirable qualities of 1950s America to their logical extreme, Liberty Prime demonstrates the need to contain and limit the foundational and idealised traits of society.

A particular anxiety raised by Liberty Prime also seems to be pointed towards American military fetishism. Particularly during the Cold War, the military strength of the various world powers is at once a source of reassurance, security, national pride and anxiety. Mutually assured destruction belies an underlying tension that peace in the world is sustained only through the threat of complete annihilation. Liberty Prime exemplifies this in his enormous firepower. But, furthermore, Liberty Prime requires an immense amount of power to operate. Many of the quests to do with Liberty Prime in *Fallout 3* and *4* revolve around just getting the thing operational again, which proves to be no easy feat. This perhaps then speaks to a sense of the American military power being unsustainable and unwieldy.

All of these elements combine in the satirical critique of the American ideal embodied in Liberty Prime. He is the ultimate military power, but is unwieldy and unsustainable. He is a champion of democracy and individual liberty, but cannot do or say anything he has not been programmed to do. His being a giant robot speaks to these elements and adds a further layer. As a giant, he is a demonstrably unattainable ideal. Aside from

any of his other impossible elements, the fact that he is simply too big to be human marks as impossible the ideal that is presented. And the fact that he is a robot perhaps also demonstrates that the ideal is a constructed one, not one that arises from any natural way of being. Liberty Prime exposes the ideal of the American 1950s retrofuturistic masculinity as one that is constructed but is impossible to reach. One that must be continually maintained, but is unsustainable.

DISCUSSION

Giants are not the only mythical depiction that we use to work through our socio-cultural concerns, but they are one that has persisted and that has found continued relevance in modern science fiction. Giants have proven to still be an important framework through which we try to understand and work through our relationship with technology, and particularly with technology that comes to life or fuses with life in some way: robots, cyborgs, androids, mechas and so on. Of course, this is an enormous topic and the examples I have explored are just two of that number. But still I believe that we can begin to see what the role of the giant might be within this dynamic.

As with many non-giant depictions of robots, cyborgs, androids and mechas, what is particularly at stake in these works is the boundary between human and nonhuman. If we keep adding technological augmentations or replacements to a human, at what point do they cease to be a human, if such a point exists? Or, conversely, as technological creations such as robots increasingly resemble humans and increasingly behave like humans, at what point can *they* be considered human? Is there something innate about being human that prohibits a technological creation from ever being human and, if so, what is it?

In the *Mass Effect* series, this is explored through its ideas of human exceptionalism and its apparent belief in some intrinsic, ineffable concept of humanity. This culminates in the Human-Reaper larva at the end of *Mass Effect 2*, a purely synthetic creation that harvests the "essence", in EDI's terms (BioWare 2010), of the stored humans and uses it to build and maintain itself. That the questions surrounding the nature of humanity culminate in a battle with a giant that exemplifies and brings to the fore those issues is no coincidence. The giant Human-Reaper larva confronts the player with a horrifying, abject depiction of a human that is in excess of normal human limits. Its depiction also resembles a corpse, Kristeva's example of "the utmost of abjection" (1982, 4) that confronts the subject with the annihilation of their subjecthood: "It is no longer I who expel, 'I' is expelled" (1982, 3–4).

But this boundary is troubled even more so with the image of a corpse *come to life*, not dissimilarly to the notion of the zombie, whose alternative label of 'the living dead' foregrounds the oxymoron or paradox at the heart of abjection, "the place where meaning collapses" (Kristeva 1982, 2). As Steven Shaviro remarks of the zombies in George A. Romero's 'living dead' trilogy (1968; 1978; 1985): "The living dead don't have an origin or a referent; they have become unmoored from meaning" (1993, 83). The paradox of the living dead that pushes at the boundaries of what life means is, in the Human-Reaper larva, compounded by simultaneously pushing at the boundaries of what it is to be *human*, resulting in an abjection on two parts, a troubling of two boundaries simultaneously.

The gigantic size of the Human-Reaper makes these categorical challenges impossible to ignore. It dominates the player's vision during the final battle and ensures that the player can see every detail of its grotesque, corpse-like appearance, with missing metallic 'skin' and exposed 'veins'. It also, as giants commonly do, demonstrates the impossibility of its existence as a human, for it is simply in excess of possible human dimensions, and yet attempts to present as human. Even, as in *Mass Effect 2*, by directly

harnessing human essence, made explicit, external and visible by the tubes which support the giant.

But the attempt at resolving the category crisis through the defeat of the giant is unsuccessful. Drawing on Švelch, the Human-Reaper larva is still encountered and defeated through the normal logic of the game, bringing the monster "under (informatic) control" (2013, 202). It is an attempt within the game to render the central question as a puzzle to be solved by normal ludic means. But the category crisis remains even after slaying the giant, so this proves to be a solution that does not sufficiently resolve the issue. The anxieties and border trouble are embodied in the giant and brought under informatic control by the player, but the question seems no closer to being answered within the *Mass Effect* universe.

In *Fallout 3* and *4*, the player is given the opportunity to meet Liberty Prime, whose position as a giant robot plays an important role in the series' satire and critique of American exceptionalism and cultural values through a 1950s retrofuture lens. As a giant robot, Liberty Prime exposes and embodies the contradictions in the traditional American values that the series establishes and explores: firepower, a fervent defence of democracy and condemnation of communism, patriotism, and individualism. But each of these elements is simultaneously eroded. His firepower is dampened by his need for constant and taxing maintenance. His championing of democracy is ironic, given the robot's status as a pre-programmed military weapon, presumably unable to vote. As is the idealised individualism, which is undermined by the fact that he is simply a pre-programmed robot with no free will or thought.

Liberty Prime's masculine ideal is also marked as unattainable by his being a giant, too large and unwieldy for any human to aspire to. With reference to Booker's analysis of the dreams and fears of the 1950s man, I observed that Liberty Prime represents this duality. He represents the man who is afraid of conforming too much and losing his individuality, but also afraid of being *too* individual—becoming abnormal—and losing his place in the group (Booker 2002, 9–10). And, at the same time, his excessive firepower points both towards the American military pride but also to the same military power that has landed the player in this post-nuclear apocalypse.

Through the figure of the giant, *Fallout 3* and *4* tackle socio-cultural boundaries, simultaneously romanticising and denigrating the 1950s retrofuture they portray and, on a meta-level, simultaneously romanticising and denigrating today's nostalgia for that 1950s retrofuture. As Pichlmair observes, "[t]he game successfully denies resolution of any of these conflicts" (2009, 111). And as the title of his review suggests, the game creates a mosaic of the future and, with that, a reminder that these issues and questions are ongoing and unsolved, whether in the present, the past, the future-that-could-have-been, or the future-that-could-be.

There are many differences between how the techno-giant manifests in the two examples I have selected and in what each represents within its respective gameworld. And, as mentioned earlier, it is not possible to make generalisable points about techno-giants as a phenomenon that are robustly supported without investigation into further examples. However, these examples do show some commonalities. Both giants bring to the fore these many complex cultural anxieties and boundary crises represented in their respective series, but in neither is a resolution found. And what can perhaps be said is that the techno-giants in these games are focal points for our concerns about the *future*, about where humanity is going or could go, as opposed to where humanity *is* now.

Even though *Fallout* explores a retrofuture—a future that cannot come to be because the point of divergence is in our past—it is still concerned conceptually with the future. On one layer, it explores the threat of an apocalyptic future that could have been, evoking the deep and justified anxieties of the Cold War. But, on another layer, it warns of a future that could still be. Through satire, it warns us of our nostalgia for an era on the brink, reminding us that it remains possible for us to idealise and romanticise even the most terrifying of periods, and thereby risk repeating their mistakes.

Weaved throughout these evocations of nostalgia, the 1950s retrofuture and the series' satire are many elements that are also pointed to today, another reminder that we are poised to fall into similar traps. The American military (and that of much of the rest of the world) remains armed to the teeth, well-funded and fetishised. Blind patriotism remains, as does the perceived battle between capitalism and communism. The USA, Russia and China remain on frosty terms. *Fallout* uses its satire to remind us that mistakes can be (and arguably are being) repeated. Liberty Prime acts as a particular focal point in this regard, as in both games he must be *resurrected*. Not only are mistakes being repeated, but some of the very technology that brought the world to this apocalyptic state is being quite literally unearthed from the ashes of its own wake.

One could even point to yet another layer of irony, that, despite all of this, here we sit, playing a first-person shooter that rewards players for their gunslinging violence and dissects and commodifies enemies using the game's Vault-Tec Assisted Targeting System (VATS).

Mass Effect instead explores a future that could be, and so perhaps more directly engages with our anxieties about our direction. In its organic/synthetic distinction, the series raises the question of what it is to be human and where the line between human and machine lies. This becomes embodied in the giant Human-Reaper larva, but even the defeat of the giant offers no ultimate solution. This speaks to Patricia MacCormack's writing on monstrosity in posthumanism, in which she remarks that "monstrosity is only a failure or catalyst to affirm the human" (2012, 293). For MacCormack, posthumanism forces us to accept that "[t]he human is an ideal that exists only as a referent to define what deviates from it", it never in itself, exists in any consistent and firmly boundaried form (2012, 294). And, as Espen Aarseth observes, this theme of "the ambivalence of material self-enhancement" is one that "dates back to the Daedalian and Promethean myths of classical literature" (1997, 54), suggesting that this relationship between humanity and technology is one that has caused socio-cultural dilemmas for far longer than the techno-giants I describe have been around.

Both of these examples use the giant, a timeless monster we seem unable to vanquish, to embody paradoxes we seem unable to resolve. The techno-giant brings a familiar figure of long-standing anxieties and connects it to our worries about the future, suggesting along with it that these concerns are similarly fundamental, similarly unsolvable. A question we will have to keep asking, a boundary we must continually negotiate and renegotiate. It is a question that is always *of* our time, as MacCormack notes: "[m]onsters are only ever defined contingent with their time and place; they are never unto themselves" (2012, 293). Both of the examples I have analysed in this paper are concerned with the giant in relation to time. For *Mass Effect 2*, the not-so-distant future. For *Fallout 3* and *4*, it is the present in conversation with our past's vision of the future and the future that could have been. Together, they show that the giant is a figure that embodies the boundary on humanity that we want to place, but are never quite able to, and may never be able to.

ENDNOTES

1 It is unclear why the names of some species in the Mass Effect series are capitalised and some are not, hence why it might seem inconsistent in my usage. I have chosen here to simply follow how the games tend to render their names in text: humans, quarians, geth, Leviathans, Reapers, Protheans and Collectors, respectively.

1 Although supposedly genderless and referred to using the singular neuter pronoun (it/its/itself) due to being a robot (in paratexts such as Hodgson 2009, for instance), Liberty Prime's voice and depiction are masculine and this, in my view, is significant and not coincidental.

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