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Humanising gaming? The politics of posthuman agency in autobiographical videogames

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Abstract

For many commentators autobiographical videogames represent a step towards a more human vision of digital play, promising to transform a medium still widely associated with mindless and dehumanising virtual violence into a vector for self-expression, empathy and understanding. Viewed through the lens of life-writing theory, however, the situation looks somewhat different. As scholar in this field have shown, works of auto/biography and life-writing have been instrumental in propagating ideas about agency, politics and the human that remain both pervasive and pernicious. Their work suggests that if we are to talk about 'humanising' videogames we must first address how understandings of the human are constituted and who they have historically excluded. Here developments in life-writing theory align with recent scholarship on how videogames undercut the liberal humanist conception of the autonomous agential subject by implicating players in complex assemblages of human and non-human actors. This work holds out another way of reading the encounter between gaming and auto/biography: as a catalyst for new forms of posthumanist life-writing, in which the autobiographical mode co-exists with what this article dubs the *ludobiographical* mode. If games are *auto*biographical to the extent that they involve creators giving an account of episodes from their own life, they are *ludo*biographical to the extent that they foreground the challenges videogames pose to humanism's vision of autonomous individuals in possession of their own bodies, stories and identities. This idea is elaborated through an analysis of *That Dragon, Cancer* (Numinous Games, 2016). Created by Ryan and Amy Green, the game documents the death of their developmentally disabled son Joel and their consequent crisis of faith. Controversial and widely discussed, it constitutes a rich case study in how autobiographical videogames raise irreducibly political questions about agency, identity and the (post) human.

Keywords

videogames, life-writing, agency, posthumanism, autobiographical games, ludobiography, disability studies

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Introduction

Growing numbers of videogame designers are exploring the medium's potential for sharing life stories and personal experiences. This has largely been interpreted as an artistically and politically progressive development, with pundits framing autobiographical games as welcome and significant departures from game design orthodoxies. The terms of comparison typically go something like this: where commercial videogames deal in bombastic fantasies, autobiographical games are rooted in everyday reality; where the former are the impersonal products of large multinational teams beholden to focus groups, investors, executives and marketing departments, the latter provide unique perspectives on individual experiences; where the former deal in a narrow spectrum of emotions (fear, aggression, pride, exhilaration), the latter have a wider and deeper range, eliciting empathy, pity and joy; where the former promise empowerment, the latter explore the limits of agency. In many instances the difference between the two is represented as a matter of *humanity*: for Anna Anthropy (2012a: 3), whose book *Rise of the Videogame Zinesters* issued an influential clarion call to DIY game designers, games grounded in personal experience offer a more expansive 'view of what it is to be human' than commercial shooters and puzzle games; for Henderson and Iacovides (2020) they provide space for 'human growth and reflection' (2020: 1); for designer Vander Cabalero, they reflect a quintessentially 'human' drive 'to tell your story, no matter how painful it is' (Albor, 2012).

Such assertions reflect a wider tendency to understand acts of personal storytelling as both human and humanising. Predicated on the capacity to reflect upon, narrate and account for our own actions and feelings, and to imaginatively project ourselves into the experiences of others, auto/biographical media are rooted in the faculties that many would prefer to believe define us as human beings. Videogames, by contrast, are often seen as an inhuman or dehumanising medium, associated with violence, addiction and vacuous thrill-seeking. Certainly, many ingenious, idiosyncratic, moving and thought-provoking autobiographical videogames have seen release in recent years. But is it useful to frame them as evidence that gaming is becoming *more human*? Scholarship on autobiography and life-writing[1] suggests there is reason to resist this framing. As it has shown, these forms have been instrumental in propagating ideas about agency, politics and the human that remain both pervasive and pernicious. But this scholarship also suggests another way of viewing the unfolding encounter between gaming and life-writing: not as an opportunity to humanise videogames, but as an opportunity to rethink autobiography – and even to rewrite humanism. Perhaps, by playing on the qualities that have seen videogames dismissed as *de*humanising game designers may be able to develop forms of life-writing more closely aligned with emerging critical perspectives on the human?

Viewed this way, autobiography shades into what this article proposes to call *ludobiography*. This portmanteau is intended to designate a mode rather than a form or genre. Terms like 'autobiographical videogames' and 'interactive life stories' are already widely used and understood, and it is hard to see what would be gained by replacing them. Nor am I suggesting that all accounts of gaming's role in specific individuals' lives should be reclassified as ludobiographies. Rather, by replacing 'auto' with 'ludo', the term ludobiography gestures towards the capacity of autobiographical games and first-hand accounts of digital gameplay to trouble understandings of selfhood, putting identity, subjectivity and agency into play. If texts are *auto*biographical to the extent that they entail a creator giving an account of formative episodes from their own life, they are *ludo*-biographical to the extent that they address how gameplay can undercut our sense of ourselves as conscious individuals in possession of our own bodies, identities and stories. The ludobiographical mode exists in tension with the autobiographical mode, then – but it is hardly incompatible with it.

In fact, I would argue that all autobiographical games, and all autobiographical accounts of gameplay, must necessarily reckon with the challenges gameplay poses to prevailing understandings of selfhood, and of what it means to be human.

In seeking to explicate this tension between the auto and the ludo, this article looks to the critical posthumanities, and to the calls to overhaul, dismantle, decentre or explode the category of the human that have issued from this burgeoning academic field in recent years. Rejecting 'the humanist ideal of "Man" as the allegedly universal measure of all things', critical posthumanists have argued that "humanity" was 'never… a universal or a neutral term to begin with' but 'rather a normative category', gauged in terms of proximity to an ideal subject imagined as 'male/white/heterosexual/owning wives and children/urbanized/speaking a standard language' (Braidotti, 2019: 32, 35, 36). Challenging discourses of 'human exceptionalism' (ibid. 32), they have contested this 'Enlightenment subject's claims to mastery, autonomy, and dominance over material and virtual worlds', elaborating accounts of 'agency… as a network of relation between humans and nonhumans' (Jackson, 2013: 671).

This work has inspired conversations within life-writing theory and game studies to which this article aims to contribute through its account of a specific autobiographical game. But while much of the scholarship I will be engaging with travels under the banner of posthumanism, it is important to acknowledge that not all thinkers critical of liberal humanism are comfortable with this framework. For Jackson (2015: 216), posthumanist calls to move 'beyond the human' too often 'ignore praxes of humanity and critiques produced by black people', while for Gilroy (2014: 72, 67) the real task is that of 'reenchanting and resituating humanism', so that a category historically founded on the abjection of racialised 'infrahuman' others might finally deliver on its promises of unconditional inclusion. For Luciano and Chen (2019: 113, 115) the term posthuman suggests 'a singular chronology of "human," asserting the solidity of a concept that has never, in truth, been stable'; they propose the term 'queer inhumanism' as an alternative rubric for work that 'underscore[s] the need for interspecies thinking' while 'index[ing] habits and histories of dehumanization'. These thinkers raise important concerns as to the limitations and blindspots of existing strains of posthumanist critique. In doing so, however, they only reaffirm the point that if we are to talk about "humanising" videogames it is crucial to consider how conceptions of humanity are constituted and who they have traditionally failed to accommodate. Once we begin to do this, it becomes possible to ask whether calls to "humanise" videogames risk perpetuating romantic, reductive, regressive and exclusionary conceptions of humanity.

This article explores these possibilities in relation to *That Dragon, Cancer* (Numinous Games, 2016). Created by Ryan and Amy Green in collaboration with programmer Josh Larson, the game narrates the death of the Greens' young son Joel after an unsuccessful course of treatment for brain cancer. Crowdfunded via Kickstarter, the project attracted widespread attention both within and beyond gaming culture, and was the subject of a feature-length documentary. As one of the highest-profile autobiographical videogames to date, it presents a rich case study in how works of interactive life-writing are received, demonstrating their capacity to mediate and inspire debates about agency, politics and the human. As we shall see, the game has been widely celebrated as evidence that videogames are becoming more human. At the same time, aspects of the game resonate with posthumanist perspectives on life-writing and gameplay, hewing closer to what I am calling the ludobiographical mode. As this suggests, while I have portrayed the project of humanising games and that of rewriting humanism as alternatives, it is entirely possible for the same game to pull in both directions.

The following section lays the theoretical groundwork for my reading of *That Dragon, Cancer*, discussing the uptake of posthumanist ideas within life-writing theory and game studies. The next

section provides a description of the game and an overview of its reception, drawing attention to how critics, commentators and players have used it to advance a range of humanist positions. This is followed by my own interpretation of the game, which teases out its ludobiographical dimensions, arguing for its relevance to those of us interested in how videogames might dramatise the politics of posthuman agency.

Life-writing theory, game studies and posthumanism

Theorists of life-writing have demonstrated that auto/biographical literature played an important role in propagating Enlightenment humanism's vision of "Man" as an agential sovereign subject 'whose very "dignity" is identified with his (and rarely her) autonomy' (Weil, 2017: 85). The emergence of 'the institution of canonical autobiography' in the late 18th century was instrumental in cementing the 'unitary self of liberal humanism' as 'a prevailing notion governing Western configurations and disciplines of selfhood' (Smith and Watson, 2001: 135). In the centuries since, auto/biography and life-writing have remained important vehicles for rehearsing and disseminating humanist orthodoxies - but also for contesting and reformulating them.

For Huff (2017: 279–80), life-writing theory has always been about mapping the shifting contours of the human and 'foreground[ing] ethical questions that focus on the human other – for example, women, people of colour, the abject, the disabled – all groups of people traditionally excluded from the Gusdorfian concept of autobiography, which casts the proper autobiographical subject as a representative man exemplifying his zeitgeist'.[2] In recent years, the discipline has become increasingly preoccupied with the forms and functions that posthumanist life-writing might assume. Weil (2017: 93, 86) sees the remit of posthumanist autobiography in terms of 'reveal[ing] the lie or insufficiency of the "auto"' and 'account[ing] for that in- or non-human out of and through which one comes to recognize and be recognized as a "human" self'; for Huff (2017: 280), meanwhile, a properly posthumanist life-writing would chart processes of 'becoming together… within a space where many beings—some of them readily visible, some not—continually affect each other'.

Other critics have looked to 'disabled people's life writing' as a 'site for the emergence of post-humanist narratives' (Couser, 2012: 194). For Overboe (2009: 243, 245, 247), existing attempts to write disability too often cleave to 'the register of the humanistic and personal', entrenching life-writing's tendency to 'privilege the self-reflexive narrative', valorising 'agency', 'humanity' and 'personhood'. He argues that it is both possible and necessary, however, to develop forms capable of affirming 'impersonal life': life 'expressed without cognition, intent or agency' (ibid. 243). Importantly, Overboe does not see personal and impersonal life as mutually exclusive; while some subjects – newborns, the comatose, stroke victims – may dwell entirely or primarily on the impersonal plane, Overboe asserts that in most cases 'the personal register of humanism and the impersonal register of the non-human co-exist within [us]' (ibid. 242–4, 250). As a cultural practice, however, life-writing has tended to downplay the impersonal dimension of life – a domain of '*affectivity*, sensibility [and] sensation' less amenable to expression through 'language and representation' than that of conscious thought and voluntary action (ibid. 245, 253, emphasis in original). Huff (2017: 280) makes a similar point regarding life-writers' attempts to explore 'the subjectivities of non-human animals and machines': noting that such attempts are often couched in terms of granting personhood to non-human entities and extending them 'the right to tell one's own story, to have a voice', she argues that such terms are inherently 'problematic… because neither non-human animals nor machines… experience their worlds via the technology of natural human language'. Offering an account of how posthumanist life-writers might 'displace writing as the

privileged technology of expression', Huff (idem.) invites us to envision an 'art installation where "readers" of life narrative could immerse themselves in [an] environment' that incorporates 'multiple forms of expression' – a proposal one could equally imagine taking shape as a videogame.

These thinkers make several points that bear on my reading of *That Dragon, Cancer* as a game centred on the life and death of a cognitively disabled child. Firstly, rather than arguing for the need to recognise the personhood or humanity of individuals and entities ordinarily denied that status, Overboe and Huff ask why this should be a prerequisite for acknowledgement and affirmation (Overboe (2019: 243) stresses that he is not interested in arguing that 'impersonal lives… must be incorporated into humanism'). Also at stake here is the issue of how, even for those legible as human subjects, much of life plays out in an 'impersonal register' that life-writing typically fails to capture or account for. Finally, in imagining alternatives to familiar auto/biographical forms, Huff and Overboe ask us to consider how posthumanist life-writing might contest the primacy of language and loosen the strictures of linear narrative.

There are clear connections here with the posthumanist perspectives currently proliferating within game studies. Recent scholarship in this area has attempted to 'rethink digital games and play, shying away from the purely anthropocentric perspectives according to which humans are the sole active subjects and the game a mouldable object of their desire' and reframing gameplay as an 'act of negotiation between human players and non-human actors' (Fizek, 2018: 203, 206). In these accounts of gaming videogames are treated not merely as objects of posthumanist analysis, but as possessing the potential to transform popular understandings of subjectivity and agency, 'dislodg[ing] the notion that agency resides in the intentional subject' (Keogh, 2018: 26–27).

Intriguingly, this work has often focused on games and genres that it is tempting to dismiss as dehumanising: Ash's (2015: 8, 67) discussion of how videogames foreground 'inter-object relations and… shape human capacities outside of the phenomenal realms of the subject', for example, sees him dissecting first-person shooters and fighting games. These are genres that violently valorise individual agency. By asking players to think and act quickly, however, they also exemplify the way that videogames addresses our preconscious and nonconscious faculties, requiring players to accommodate themselves to ordinarily imperceptible computational objects, processes and timescales. The pursuit of ludic mastery *can*, then, lead players towards an acknowledgement of the agency of non-human entities – and for that matter of the extent to which their own bodies operate outside of their conscious control. Phillips (2018) makes a similar point in their work on 'mechropolitics' (which will be central to my reading of *That Dragon, Cancer*). Analysing the mechanisms videogames use to ascribe value and meaning to in-game lives and deaths, they argue that games are often less concerned with appealing to players' deliberative, emotional or reflexive faculties than they are incentivising the acquisition of certain habits and 'reflexes' within the microtemporal timeframe of the 'split second' (ibid. 145).

If humanist conceptions of the subject define us in terms of our capacity for rational thought and autonomous agency, introspection and contemplation, then there is an argument that videogames do not address players *as humans* at all – or, at least, that it is hard to adequately account for the appeal of many popular videogames from within such frameworks. The tendency to see videogames as deficient or pernicious by comparison with other, supposedly more human(e) cultural forms reflects this. But their capacity to engage players on the impersonal level of affect, intuition and reflex action, in combination with their distribution of agency across complex assemblages of non/human actors, renders videogames peculiarly well-suited to dramatising the dynamics of posthuman agency.

Given this article's interest in these possibilities, its decision to focus on *That Dragon, Cancer* perhaps requires explaining. In terms of what videogames offer life-writers, a more obvious starting

point might be the attempts of designers like Rod Humble to render personal experiences using means 'unique to games' (Humble, 2007). For evidence of how autobiographical games can contest humanist platitudes and subvert auto/biographical tropes, meanwhile, one might look to the rich and varied corpus of personal games that has arisen from the 'queer games avant-garde' (Ruberg, 2020). Given the extent to which orthodox humanism and classical autobiography alike are underpinned by cisheteropatriarchal values and assumptions (Braidotti, 2019: 36; Smith and Watson, 2001: 114–115), it is perhaps no surprise that queer, trans and feminist designers have been at the forefront of demonstrating how videogames can challenge 'traditional notions of autobiography' (Ruberg, 2020: 172–173). From miniature roleplaying games and confessional 'desktop simulators' to experimental 'walking simulators', designers like Mattie Brice, Nina Freeman and Tabitha Nikolai have used a range of forms to articulate personal perspectives on gender, sex, identity and subjectivity, vividly portraying modes of experience that have gone underrepresented within (where they have not been actively erased from) the biographical archive (Gallagher, 2017, 2019, 2020).

By comparison with these reference points *That Dragon, Cancer* can appear staid and conservative, both in its approach to game design and its commitment to telling an unabashedly emotive linear story about a white North American nuclear family. Certainly, Nikolai's games – which explore trans subjectification via three-dimensional collages full of allusions to myth, history and videogame lore (Gallagher, 2020) - are more readily legible as posthumanist life-writing, playfully interrogating the idea of the unitary self through their use of the ludobiographical mode. But nor does *That Dragon, Cancer* align neatly with humanist understandings of autobiography. As a document of religious faith, it is at once crucially out of step with the principles of secular humanism, and deeply preoccupied with the possibility of comprehending and communicating with entities outside the sphere of the human. As a posthumous portrait of a developmentally disabled child, it asks players to consider who is excluded from conventional conceptions of Man, while exploring the capacity of new technologies to remediate or extend our corruptible mortal selves. The techniques it uses to tell the Greens' story, moreover, often bear comparison with those favoured by avant-garde developers. Less aesthetically and politically radical than comparable games, *That Dragon, Cancer* nevertheless offers glimpses of various directions in which the encounter between gaming and life-writing may yet develop. And, as the following section shows, it also illustrates how autobiographical videogames are already providing platforms to rehearse, contest and perhaps rework understandings of what it means to be human.

Responding to That Dragon, Cancer

Initially conceived by Ryan and Amy Green as a way of documenting their son's illness, *That Dragon, Cancer* was destined to become a work of 'death writing' (Smith and Watson, 2001: 188) and an act of 'digital commemoration' (Schott, 2020: 85), recounting the final months of Joel Green's short life. For the most part, the game is played from a first-person viewpoint via an interface reminiscent of a point and click adventure game, though it also incorporates minigames and interactive vignettes in which players assume real-time control of avatars viewed from a third-person perspective. While the player's point of view sometimes coincides with that of a particular character, in general players are not allocated an identifiable role. Input is required to advance from sequence to sequence, but the game essentially dispenses with traditional challenges, puzzles and fail states. Ultimately, players remain unable to influence the course of events – and, as such, to prevent Joel's death. Where some scenes play out in realistic recreations of everyday spaces – a park, a consultant's office, a hospital ward – others see players 'traversing… allegorical space[s]', as is the case in many autobiographical games (Werning, 2017: 32). The chapter Drowning, for example,

literalises the Greens' feelings of being 'all at sea', and begins with Amy and Joel adrift in a lifeboat while Ryan treads water, struggling to muster the motivation to stay afloat.

Much of *That Dragon, Cancer*'s narrative is conveyed through dialogue delivered by the Greens, who play themselves in scenes charting the progression of Joel's illness and deliver monologues expressing their thoughts and feelings. Certain words and phrases are displayed onscreen in a font suggestive of handwriting. This 'aesthetic use of written text' is something the game shares with other 'literary games' (Bozdog and Galloway, 2020: 791), and underscores its debt to autobiographical literature, with its emphasis not just on narrating events, but on exploring the psychological, emotional and spiritual dimensions of subjective experience. Like many interactive auto/biographies, *That Dragon, Cancer* also contains elements of 'archival adventuring' (Kagen, 2019), incorporating digitized documents and recordings that deliver diegetic information while foregrounding the mechanisms through which 'memories and histories are archived and made discoverable' in contemporary culture (Barker, 2019: 87).

As this suggests, *That Dragon, Cancer* is heavily reliant on written and spoken language to tell its story. But as a 'hybrid literary-ludic artifact[]' (Ensslin, 2014: 38) it also deploys techniques peculiar to videogames. Many scenes constitute 'interactive metaphor[s]' (Chew and Mitchell, 2019: 347). During Drowning, for example, it initially seems like players must help Ryan swim to the surface by pressing a button that makes him kick his legs; in fact, the only way to progress is by letting him sink, surrendering to despair. Such instances of 'ineffectual agency' can be seen as responses to a problem that confronts all makers of auto/biographical games: that while videogames often emphasise the extent to which the 'player is capable of changing the outcome of the story', with 'life stories the plot faces constraints of reality', requiring designers to 'design for meaningful interactivity while not contradicting historical fact' (Chew and Mitchell, 2019: 345, 324). Some of the most noteworthy autobiographical games have made a virtue of this tension by addressing experiences of disempowerment and dehumanisation, centring on individuals subject to forces beyond their control: *Dys4ia* (Anthropy, 2012b) uses unwinnable minigames reminiscent of 1980s Atari titles to portray the vicissitudes of hormone replacement therapy from the perspective of a protagonist at the mercy of both the medical establishment and her own physiology; in Nina Freeman's (2015) branching narrative *Freshman Year*, meanwhile, the protagonist will be sexually assaulted by a club bouncer no matter what she says, wears or does – a retort to the misogynistic idea that women invite harassment and abuse by making unwise choices (Gallagher, 2019: 34). While there are certainly, as I will explore, important differences in how and why these games deploy ineffectual agency, for now it is enough to note that *That Dragon, Cancer* is, in many respects, comparable with other autobiographical games – to the point of arguably being 'formally less interesting and novel than it is often given credit for' (Werning, 2017: 31).

That Dragon, Cancer is remarkable, however, for the range of often impassioned responses it elicited from bloggers, vloggers, critics, journalists and players. These responses use the game to advance conceptions not just of what videogames could and should be, but, in many cases, of what it is to be human. *The Guardian*'s Andy Robertson (2016) describes it as a 'game that takes death seriously*'*, offering 'more than entertainment'; *The Lancet*'s Aaron Van Dorn (2015: 615) as proof that videogames are 'capable of expressing a deeper level of emotion and fostering a more serious engagement with players than many would believe'. For leadership coach Jon Harrison (2014: 198), writing in *The Computer Game Journal*, it 'exhibit[s] a maturing of how we think about what a videogame is, and how we can understand and connect with the human experience'. Commentators frequently highlight Numinous' 'subver[sive]' refusal to grant 'power and control' to players (Casberg, 2016). For Christian commentators like Casberg, this commitment to 'undoing the illusion of total agency and control' is inseparable from the Greens' faith (idem.), expressing a

reverent acceptance of the limits of what humans can achieve without divine assistance. This certainly seems to be the lesson of the game's notoriously harrowing Dehydration chapter, which sees Ryan desperately struggling to calm a wailing, retching Joel; only after players have exhausted all other possibilities and Ryan begins to pray is Joel able to find peace.

As Zucchi (2016) notes in an essay for *Kill Screen*, *That Dragon, Cancer*'s religious dimension was a source of unease, frustration or disappointment for many critics, proving hard to reconcile with the secular humanist tendency to see 'grief [a]s eminently relatable' but 'faith' as 'potentially alienating'. For *Telegraph* reviewer Tom Hoggins (2016) the 'scenes in which the Greens turned to their religion' left him aghast that anyone 'could still believe in or trust a God that would put them through such an ordeal'. Similar positions are represented in a Steam Community thread titled 'Are the religious themes alienating?' (Pirateguybrush, 2016).[3] Some participants urge prospective players to look past the game's religious concerns to what they frame as the human universals underpinning it ('This game isn't about Christianity, it's about suffering, which is… one of the most human things there is' (Adustus, 2016)). Others are more combative, accusing the Greens of 'forcing religion down people's throats' and even of conspiring 'to make a profit off of cancer sympathy' by charging the 'ridiculous' fee of '$15 for a 2-hour sermon' (Nobelissimos, 2016; Challah Bread, 2016).

Many of those who experienced *That Dragon*, *Cancer*'s story did *not* in fact buy the game. In March 2016, Ryan Green admitted that Numinous had 'underestimated' the degree to which Let's Play videos would harm its profitability. Revealing that he 'ha[d] not yet seen a single dollar from sales', Green requested that YouTubers refrain from posting playthroughs of the entire game and 'encourage viewers to support our work financially through buying the game, or donating a dollar or two.' Where reviews and editorials use *That Dragon, Cancer* to rehearse arguments about what it is to be human, in Let's Play videos it becomes an occasion to publicly embody certain kinds of humanity. Featuring phrases like 'EMOTIONALLY DRAINED' or 'Cried So Hard' in their titles (Dragonbackwards, 2016, Jacksepticeye, 2016), these videos see YouTubers performing empathy, pity and compassion, reflecting the centrality of 'affective labour and performance' to gaming streams and Let's Play videos (Woodcock and Johnson, 2019). By calling these 'performances' I do not mean to imply they are cynically staged (though Jacksepticeye (2016) is keen to pre-empt such accusations, assuring viewers that he was 'genuinely… moved' and 'will be donating to a cancer charity soon'); ultimately, the question of whether YouTubers' responses are authentic has little bearing on how these videos position the game as a spur to emote and empathise. Where Numinous assumed that 'people would [not] be satisfied with only watching the game' (Green, 2016), viewer comments suggest that Let's Plays may have intensified its emotional charge by inviting audiences to feel *with* the vlogger *for* the Greens. Viewers often frame YouTubers' reactions as evidence of their essential decency and humanity, with comments on a 'Pewdiepe cry compilation' interpreting Felix 'PewDiePie' Kjellberg's tears as proof that he is 'brave', 'thoughtful', has 'a heart' and is likely to be 'a good dad' (Froggysmile, 2016). One even argues that the video - which also sees Kjellberg welling up at the death of a Black character in *The Walking Dead* (Telltale Games, 2012) – shows that Kjellberg, a figure notorious for his track record of racial slurs and antisemitic 'jokes', cannot be the 'racist' he is portrayed as in 'the media'.

Across these newspaper and journal articles, blogposts, videos and forum comments Numinous' game is used to advance, contest and perform a range of humanist positions. For religious critics it provides an opportunity to articulate a kind of Christian humanism in which regard for the sanctity of human life is bound up with faith in a merciful creator God; for secular critics, by contrast, its religious themes are presented as regrettable distractions from its otherwise admirable treatment of human universals. On YouTube, meanwhile, users demonstrate an understanding of humanity

rooted in the capacity to respond spontaneously and empathetically to the suffering of others. Even the aggressively atheistic attacks on the Greens mounted by Steam users may be seen as defences of a certain kind of humanism: implying that *That Dragon, Cancer*'s adherence to Christian doxa is consistent with the constraints it sets on player agency, users evince a commitment to a form of secular humanism grounded in rationality, religious scepticism and the right to self-determination.

While these responses suggest how slippery and contradictory understandings of the human can be, they also provide a clearer sense of what commentators mean when they characterise autobiographical games as 'more human' than typical videogames. *That Dragon, Cancer* has largely been received as proof that by subverting or breaking with the medium's conventions, and by adopting something closer to the register of literary autobiography, videogames can deliver profound - and profoundly emotive – personal perspectives on the human condition. No longer an agential sovereign bending the gameworld to their will, the gamer is reimagined as empathetic and affectible, at peace with the limits of their own agency and attuned to what they share with their fellow human beings. It may not seem like there is much to object to here. But these responses also suggest why appeals to the category of *the* human are so often politically dubious.

In some ways humanist critics are of course right to see suffering and death as human universals; such 'universal claims', however, can stand in the way of 'subtler and more complex analyses of powers and discourses' (Braidotti, 2019: 34, 36), obfuscating the mechanisms that determine some lives to be less worthy of protection and nurture than others, and eliding the radically unequal rates at which different populations are exposed to exploitation, injury, sickness and death. By so doing they provide alibis for quietism and resignation, implying that suffering is, however regrettably, inevitable. Assessing autobiographical games in terms of their capacity to foster empathy and elicit emotion can compound the issue, privileging displays of feeling over other kinds of response to pain and injustice. For these and other reasons, queer critics and creators in particular have become increasingly suspicious of 'the idea that games can – or should – provide [players] with the opportunity to "step into the shoes" of marginalized people' (Ruberg, 2020: 20–21). Can videogames really convey what it feels like to be a particular person, or belong to a particular group? Are tears reliable indices of deep understanding, or drivers of change? At what point are makers of autobiographical games repackaging pain and trauma for audiences eager to feel good about their capacity to feel bad? These questions are not intended to be dismissive. They are, however, meant to highlight the kinds of complexities that can be flattened out by invocations of "the human" – not least the existence of competing understandings of humanity.

There are also reasons to question the terms on which discussions of *That Dragon, Cancer* frame its relationship with typical or traditional videogames. One of the factors that unites negative and positive assessments of the game is their tendency to see this relationship as adversarial or hierarchical. For its detractors, *That Dragon, Cancer*'s refusal to comply with familiar notions of gameplay means it falls short of the status of a "real" videogame, while for many of its admirers it is precisely the game's subversive denial of player agency that elevates it above other videogames. To argue that certain games *deny* rather than *granting* players control, however, is to misrepresent the complex dynamics of digital gameplay, dynamics that posthumanist analyses 'open[ing] the category of ludic agency towards non-human entities' have done much to illuminate (Fizek, 2018: 206). In the course of making certain actions possible, videogames necessarily rule others out. And while autobiographical games might be particularly fond of affording players 'ineffectual agency' (Chew and Mitchell, 2019: 345), they do so to different ends, with different effects. Here, comparing *That Dragon, Cancer* with *Dys4ia* and *Freshman Year* is again instructive. In those games, the player's attention is drawn to systems, circumstances, institutions and attitudes that impinge upon the agency of the protagonists – but which are not presented as fixed, universal or immutable. In this

sense, their use of ineffectual agency has an important political dimension, highlighting the possibility of effecting change and winning redress through concerted collective effort. *That Dragon, Cancer*, by contrast, is more interested in spiritual than political questions. Focused on circumstances it presents as necessarily beyond the power of mere humans to affect or even understand, it deploys ineffectual agency in the service of a Christian worldview that often feels *pre*-humanist in its focus on the necessity of faith and the importance of grace.

What can such a game offer to those of us interested in rewriting humanism? Having reviewed perspectives on *That Dragon, Cancer* from scholars, critics and players, I want now to address this question. In the next section, I use Phillips' (2018) concept of mechropolitics to analyse *That Dragon, Cancer*'s pastiches of retro videogames. Like many autobiographical videogames, *That Dragon, Cancer* alludes to gaming's history through sequences that deploy graphics and gameplay mechanics evocative of identifiable titles, platforms or genres. We could see these pastiches as underscoring how videogames have hitherto fallen short of a mature and humane treatment of death. But they can equally be read as demonstrations of how designers can draw on gaming's past to explore the terms on which different lives are valued, forging new registers for life-writing – and death-writing – in the process. Videogames have long used an array of techniques to make characters' lives feel more or less precious, rendering their vulnerabilty to death a source of pleasure, suspense, anguish or frustration. While *That Dragon, Cancer*'s treatment of death is unusual in many ways, its pastiches suggest a sophisticated awareness of the way that more traditional videogames' systems, mechanics, spaces, economies and interfaces interoperate to inculcate understandings of life's value. These understandings are largely implicit and intuitive, occupying something closer to Overboe's impersonal register than the humanistic register of conventional auto/biography. To couch this in the terms I am proposing, *That Dragon*, *Cancer*'s pastiches write life and death *ludobiographically*. Having argued this, the article turns to the game's portrayal of Joel Green, suggesting that this portrayal illustrates the capacity of the ludobiographical mode to encompass domains of experience, forms of life and modes of connection beyond biography's traditional purview.

Mechropolitics and the meaning of virtual death

Ryan Green has traced *That Dragon, Cancer*'s genesis to the night portrayed in Dehydration, describing his futile attempts to get Joel to sleep as akin to 'a game where the mechanics are subverted and don't work' (Tanz, 2016). From one angle, this statement suggests that conventional videogames lack means of adequately representing such a scenario. Existing accounts of the game support such a reading, arguing that it is by defying convention that *That Dragon, Cancer* succeeds in making Joel's death meaningful: Barker (2019: 107, 106) observes that where many commercial games maintain a ceaseless forward momentum, *That Dragon, Cancer* affords players time to 'play [] within the spaces of repeated trauma or with memory objects'; Schott (2020: 89) contends that Numinous 'invert the medium' and depart from 'typical portrayals of death in games' by 'inflict [ing] inactivity and immobility' on players. These are insightful points. And yet, by emphasising what Numinous do differently, we may end up missing how much their game owes to earlier titles and mischaracterising its relationship with these intertexts. If we accept that videogames provided 'the prism through which [Ryan] saw many of Joel's struggles' (Hoggins, 2016) it becomes possible to see *That Dragon, Cancer*'s retro pastiches as evidence that videogames *already* offered resources for making sense of death – resources that go beyond those usually available to life-writers.

To fully understand them, it is important to acknowledge that these pastiches are not just riffs on 'known video game genres, such as the platformer and the arcade racing game' (Chew and Mitchell,

2019: 341) but allusions to specific retro games, revealing new layers of meaning if we are familiar with their reference points. During the chapter On Hospital Time there is a sequence apparently based on Nintendo's (1984) *Balloon Fight*. The minigame sees players piloting Joel, who is clutching a cluster of floating balloons, through a starry sky strewn with the knots of thorny tendrils that the game uses to represent cancer. When all the balloons have popped (as they eventually must) the sequence ends. As Schott (2020: 91) notes, this sequence plays on the properties of 'early coin-operated arcade games' in which the point was not to 'complete' the game, but to forestall the inevitability of failure, 'sustaining life and keeping the moment alive for as long as possible'. Like all videogames that 'allow… gamers to play with dying and killing', in short, *Balloon Fight* had its own mechropolitics (Phillips, 2018: 138), imbuing death with meaning through its mechanics, its difficulty scaling and (as an arcade game tuned to maximise 'coin drop') the literal price it set on each in-game 'life'.

Balloon Fight's mechropolitics are subtly but significantly different from those of *Ghosts 'n Goblins* (Capcom, 1985-present), the series referenced in *That Dragon, Cancer*'s Joel the Baby Knight sequence. Here players listen to Amy and Ryan telling Joel's siblings a bedtime story about 'a very brave knight [who] was being chased by a dragon named cancer' while playing what Schott (2020: 87) describes as a 'medieval platform mini-game' – in fact a pastiche of a long-running franchise with its own iconography, mechanics, traditions and modes of making victory and defeat matter. Like *Ghosts 'n Goblins*' dauntless Sir Arthur, Sir Joel traverses mountains and forests, flinging spears at foes; like Arthur he wears armour that shatters when he is hit, with any further hits resulting in 'death' (though here this merely means hitting 'continue' and respawning). To understand the intertextual work the pastiche performs, it helps to know that the *Ghosts n' Goblins* series delights in teasing and frustrating players. In some entries opening treasure chests may release an evil magician who can transform Arthur into, among other things, a helpless baby – an idea Numinous turns on its head with the conceit of a baby performing superhuman feats through the power of divine 'grace'. But while they are notorious for being sadistically taxing (to the point of requiring players to clear the same levels twice in order to access the games' *true* endings), it *is* possible to complete the *Ghosts n' Goblins* games, something that sets them apart from *Balloon Flight*, which simply loops through stages infinitely until the player 'dies'. This only makes it more confounding when Sir Joel encounters the dragon only to find it is literally impossible to beat.

These pastiches are certainly subversive, twisting the ludic logic of their reference points for rhetorical effect. But if they break with gaming's past, they also build upon it. Humanistic readings of *That Dragon, Cancer* frequently position it in opposition to conventional videogames, arguing that where most games devalue life, here is one that affirms its sanctity. Such readings often betray a teleological conception of gaming's development, receiving *That Dragon, Cancer* as proof that videogames have finally evolved into a medium capable of adequately addressing matters of life and death. From a mechropolitical perspective, however, it is clear that videogames have long boasted a range of techniques for making representations of death feel (in)consequential, some borrowed from other media, others strikingly novel. True, recent changes to the terms on which games are made, monetised, disseminated and discussed have enabled developers like Numinous to find an audience for games that repurpose these techniques for personal storytelling (even if some of that audience would rather watch playthroughs than buy the game); this does not mean, however, that videogames were always destined to evolve in this direction. Nor does it mean there is nothing left to learn from games that glorify violence and cheapen life. As Philips' work demonstrates, analyses of *how* particular titles (de)value virtual life can be extremely useful when it comes to understanding how digital games engage players on levels beyond or beneath that of conscious cognition – and how the elements of which games are constituted interoperate to imbue gameplay not just with significance,

but with rhythm, texture and a distinctive emotional tenor. Their account of gameworlds as 'playground[s] of mortality in which new orientations toward death and dying might be invented, rehearsed, and even normalized' (2018: 138) sounds a cautionary note, alerting us to gaming's role in maintaining understandings of who counts as human and who it is permissible to kill or let die; at the same time, it provides a compelling framework for exploring what future forms of posthumanist death-writing might take from *That Dragon, Cancer* and how they might challenge these understandings.

Life, death and play beyond personhood

Read by the light of posthumanist perspectives on life-writing and gameplay, we can see *That Dragon, Cancer* as a demonstration of the terms on which videogames might accommodate lives – and deaths – like Joel's. Works of death-writing and 'autothanatography' are frequently framed as allowing the dead to speak to the living from beyond the grave (Smith and Watson, 2001: 188). By contrast, *That Dragon, Cancer* has been hailed as an example of how videogames permit the living to 'play[] with the dead' (Webber, 2020). Inviting us to become Joel's 'playmate[s]', it foregrounds forms of connection, expression and experience that are not founded on language. As we have seen, the scenes that make up *That Dragon, Cancer* vacillate between the poles of Ensslin's 'literary-ludic spectrum' (2014: 44–45), and between 'the personal register of humanism and the impersonal register of the non-human' (Overboe, 2009: 250). In many cases Ryan and Amy's feelings are disclosed through conversations, monologues and letters. As a child whose cognitive and linguistic development have been severely impaired, Joel does not have access to such means of self-expression. The vignettes in which Joel feeds ducks, plays on swings and slides, enacts a doctor-patient roleplay with a dog and karts through the hospital's corridors, however, convey a sense of the delight he derives from his interactions with the objects and entities around him. Play, for Joel, is not about winning and losing but the pleasures of sensation, kinesis and connection – the kinds of pleasures that are often downplayed or disavowed in humanistic accounts of gameplay, but which come to the fore in posthumanist analyses (Keogh, 2018: 191).

While we might describe Joel's playfulness as a 'personality trait', Overboe's (2009: 245) work suggests that this would be a mistake; for if 'personhood [is] associated with self-reflexivity and consciousness' then Joel's claims to be a *person* are dubious at best. His is not the sort of life amenable to representation via conventional auto/biographical forms, founded as they are on an idea of Man as a 'self-reflexive conscious being' imbued 'with agency', inwardness and the capacity to give linguistic shape to his experiences and emotions (ibid. 243). This, for Overboe (ibid. 241, 242), is why it is necessary to develop forms of life-writing capable of 'affirming… impersonal life' and of better representing its interplay with 'the registers of humanistic self-reflexivity' in the lives of those who *are* understood to qualify for full personhood under prevailing legal and philosophical frameworks. Here the ludobiographical mode, which cuts against the autobiographical mode by capitalising on gaming's capacity to trouble our sense of ourselves *as* selves, promises to come into its own.

This prospect is not without political and ethical implications. If life-writing often poses questions as to who has 'the authority to tell the story of a loved one' (Smith and Watson, 2001: 31), these questions become particularly acute in works featuring children, the dead and the disabled. As Cooley (2011: 305, 304) observes, conservatives have mobilised 'sentimentalized' representations of 'poor, innocent disabled children' to foreclose debates over access to healthcare, women's reproductive rights and the 'ethics of selective abortion', often to the material disadvantage of those affected by disabilities. While *That Dragon, Cancer* steers clear of any explicit engagement with

these issues, it offers reason to be wary when it comes to imagining how autobiographical games might factor into such debates in future. To be sure, the game testifies to the range of resources videogame developers have at their disposal when it comes to dramatising issues of precarity, debility, interdependency and care, and to interrogating the terms on which different kinds of lives are valued; at the same time, it hardly requires an unprecedented imaginary leap to see how these new expressive forms and resources might be recruited for reactionary and conservative causes.

Conclusion

That Dragon, Cancer is one product of an unfolding encounter between gaming and life-writing. Certainly, the game is less radical than comparable works by avant-garde designers. But the responses it has generated – from academic analyses and message board screeds to tearful Let's Play videos – demonstrate nevertheless how autobiographical videogames offer platforms to develop, express and debate understandings of what it means to be human. Many of those responses have framed the game as an example of how, by subverting familiar genres and mechanics, autobiographical games are humanising a medium often seen as inhuman or dehumanising. This article has questioned such sweepingly adversarial framings, arguing that they misrepresent the more complex and ambivalent engagements with gaming's past found in games like *That Dragon, Cancer*. More fundamentally, though, it has argued that to see autobiographical games as making gaming more human is to miss much of what makes them interesting. Where such framings typically assume we *already know* what it is to be human, this article has drawn on posthumanist perspectives on gameplay and life-writing to elaborate a different vision: one where autobiographical videogames assist us in rewriting humanism and in developing more expansive conceptions of agency, politics and subjectivity.

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Notes

1. An academic field concerned with forms of life narrative, self-presentation and identity work, from memoirs, letters and diaries to selfies, oral testimonies and other non-textual forms.
2. A reference to the work of autobiography theorist Georges Gusdorf
3. Primarily a digital storefront, Steam also hosts user reviews and discussions of videogames

References

Adustus (2016) Reply to are the religious themes alienating? In: *Steam Community forum*. Available at: https://steamcommunity.com/app/419460/discussions/3/451851477879354751/?ctp=2 (Accessed 18 March 2021).

Albor J (2012) Transformation and *Papo & Yo*. In: PopMatters. Available at: https://www.popmatters.com/164139-papo-2495807538.html (Accessed 4 March 2021).

Anthropy A (2012a) *Rise of the Videogame Zinesters: How Freaks, Normals, Amateurs, Artists, Dreamers, Dropouts, Queers, Housewives, and People like You Are Taking Back an Art Form*. New York: Seven Stories Press.

Anthropy A (2012b) *Dys4ia*. Self-published.

Ash J (2015) *The Interface Envelope: Gaming, Technology, Power*. New York: Bloomsbury.

Barker T (2019) Cultural techniques of play: a media philosophical approach to the study of time, history, and memory in games. *Configurations* 27: 87–110.

Bozdog M and Galloway D (2020) Worlds at our fingertips: Reading (in) *What Remains of Edith Finch*. *Games and Culture* 15(7): 789–808.

Braidotti R (2019) A theoretical framework for the critical posthumanities. *Theory, Culture and Society* 36(6): 31–61.

Capcom (1985-present) *Ghosts 'n Goblins series*.

Casberg C (2016) *That Dragon, Cancer*: a video game on death, grief, and our living hope. In: The Gospel Coalition. Available at: https://www.thegospelcoalition.org/article/that-dragon-cancer/ (Accessed 4 March 2021).

Challah Bread (2016) Reply to Are the religious themes alienating? In: Steam Community forum. Available at: https://steamcommunity.com/app/419460/discussions/3/451851477879354751/ (Accessed 18 March 2021).

Chew E and Mitchell A (2019) Multimodality and interactivity in "natively" digital life stories. *Poetics Today* 40: 319–353.

Cooley R (2011) Disabling spectacles: representations of Trig Palin and cognitive disability. *Journal of Literary & Cultural Disability Studies* 5: 303–320.

Couser GT (2012) A personal post(human)script: further reading/reading further. *Biography* 35(1): 190–197.

Dragonbackwards (2016) *That Dragon, Cancer-dehydration scene-cried so hard*. YouTube. Available at: https://www.youtube.com/watch?v=josQNbMYMsM&ab_channel=Dragonbackwards (Accessed 18 March 2021).

Ensslin A (2014) *Literary Gaming*. Cambridge MA: MIT Press.

Fizek S (2018) Automated state of play. *Digital Culture & Society* 4(1): 201–214.

Freeman N (2015) *Freshman Year*.

Froggysmile (2016) Pewdiepie cry compilation #1. YouTube. Available at: https://www.youtube.com/watch?v=za3olCLrl-c&ab_channel=Froggysmile (Accessed 17 March 2021).

Gallagher R (2017) *Videogames, Identity and Digital Subjectivity*. London: Routledge.

Gallagher R (2019) 'The game becomes the mediator of all your relationships': Life narrative and networked intimacy in Nina Freeman's *Cibele*. *European Journal of Life Writing* 8: 33–55. doi: 10.21827/ejlw.8.35549.

Gallagher R (2020) Dirty footprints and degenerate archives: Tabitha Nikolai's impure walking sims. *Journal of Gaming and Virtual Worlds* 12(1): 105–122. doi: 10.1386/jgvw_00007_1.

Gilroy P (2014) *Humanities and a New Humanism*. Lecture delivered at Yale University 21 February.

Green R (2016) On let's plays. In: *That Dragon, Cancer Blog*. Available at: http://www.thatdragoncancer.com/thatdragoncancer/2016/3/24/on-lets-plays (Accessed 10 August 2021).

Harrison J (2014) Aesop for a digital age. *The Computer Games Journal* 3: 196–199.

Henderson T and Iacovides I (2020) 'It's just part of being a person': sincerity, support and self expression in vignette games. In: Proceedings of DiGRA 2020. Available at: http://www.digra.org/digital-library/publications/its-just-part-of-being-a-person-sincerity-support-self-expression-in-vignette-games/ (Accessed 17 March 2021).

Hoggins T (2016) *That Dragon, Cancer* review. In: *The Telegraph*. Available at: https://www.telegraph.co.uk/gaming/what-to-play/that-dragon-cancer-review-a-remarkable-piece-of-work-that-challe/ (Accessed 18 March 2021).

Humble R (2007) *The Marriage*. In: Rod's Games. Available at: http://www.rodvik.com/rodgames/marriage.html (Accessed 2 August 2021).

Huff C (2017) After auto, after bio: posthumanism and life writing. *a/b: Auto/Biography Studies* 32: 279–282.

Jacksepticeye (2016) Emotionally drained | that dragon, cancer. YouTube. Available at: https://www.youtube.com/watch?v=mJbwy459VkY&ab_channel=jacksepticeye (Accessed 10 August 2021).

Jackson ZI (2013) Animal: new directions in the theorization of race and posthumanism. *Feminist Studies* 39(3): 669–685.

Jackson ZI (2015) Outer worlds: the persistence of race in movement 'beyond the human'. *GLQ* 21(2–3): 215–218.

Kagen M (2019) Archival adventuring. *Convergence: The International Journal of Research into New Media Technologies* 26(4): 1007–1020.

Keogh B (2018) *A Play of Bodies: How We Perceive Videogames*. Cambridge MA: MIT Press.

Luciano D and Chen MY (2019) Queer inhumanisms. *GLQ: A Journal of Lesbian and Gay Studies* 25(1): 113–117.

Nintendo (1984) *Balloon Fight*.

Nobelissimos (2016) Reply to are the religious themes alienating? In: *Steam Community forum*. Available at: https://steamcommunity.com/app/419460/discussions/3/451851477879354751/ (Accessed 18 March 2021).

Numinous Games (2016) *That Dragon, Cancer*. Self-published.

Overboe J (2009) Affirming an impersonal life: a different register for disability studies. *Journal of Literary & Cultural Disability Studies* 3(3): 241–256.

Phillips A (2018) Shooting to kill: Headshots, twitch reflexes and the mechropolitics of video games. *Games and Culture* 13(2): 136–152.

Pirateguybrush (2016) Are the religious themes alienating? In: *Steam Community forum*. Available at: https://steamcommunity.com/app/419460/discussions/3/451851477879354751/ (Accessed 18 March 2021).

Robertson A (2016) *That Dragon, Cancer*: the video game that takes death seriously. In: The Observer. Available at: https://www.theguardian.com/technology/2016/feb/12/that-dragon-cancer-video-game (Accessed 18 March 2021).

Ruberg B (2020) *The Queer Games Avant-Garde*. Durham NC: Duke University Press.

Schott GR (2020) Physical death, digital life, and post-self: *That Dragon, Cancer* as a digital memorial. *Journal of Games, Self, & Society* 2(1): 85–103.

Smith S and Watson J (2001) *Reading Autobiography: A Guide for Interpreting Life Narratives*. Minneapolis: University of Minnesota Press.

Tanz J (2016) A father, a dying son, and the quest to make the most profound videogame ever. In: *Wired*. Available at: https://www.wired.com/2016/01/that-dragon-cancer/ (Accessed 18 March 2021).

Telltale Games (2012) *The Walking Dead*. Telltale Games.

Van Dorn A (2015) *Thank You for Playing*. *The Lancet Oncology* 16(6): 615. Available at: https://doi.org/10.1016/S1470-2045(15)70266-4.

Webber JE (2020) Playing with the Dead. *BBC Radio 4*. Available at: https://www.bbc.co.uk/programmes/m000nv36 (Accessed on 18 March 2021).

Weil K (2017) Autobiography. In: Clarke B and Rossini M (eds). *The Cambridge Companion to Literature and the Posthuman*. Cambridge: Cambridge University Press, 84–95.

Werning S (2017) The persona in autobiographical game-making as a playful performance of the self. *Persona Studies* 3(1): 28–42.

Woodcock J and Johnson MR (2019) The affective labor and performance of live streaming on twitch.tv. *Television and New Media* 20(8): 813–823.

Zucchi S (2016) Have a little more faith in *That Dragon, Cancer*. In: *Kill Screen*. Available at: https://killscreen.com/previously/articles/have-a-little-more-faith-in-that-dragon-cancer/ (Accessed on 4 March 2021).