

OUTER SPACE AND CYBERSPACE: AN OUTLINE OF WHERE AND HOW TO THINK OF OUTER SPACE IN VIDEO GAMES

Abstract. *The text examines the relationship between cyberspace and outer space. It starts off with a peculiar observation that outer space themed video games are abundant, while scholarly and expert literature about them is virtually non-existent. The text proceeds to examine the implications of invoking outer space into video games, as they might appear, if one first critically analyses the concept of outer space imagination. Then, it faces this analysis with video games, supposedly set in outer space, following the questions set out by the pioneers of the spatial turn in video games studies. This analysis allows the author to argue that video games set in outer space in fact have very little to do with the theoretical imagination of outer space, and that the latter may more fruitfully be sought in games set in so-called alternative worlds.*

Keywords: *outer space, video games, cyberspace, spatial turn, fiction beyond science*

Outer space has first become a topic of video games in 1962 with the release of *Spacewar*.¹ Since then, over a hundred games of various genres (including simulations, shooters, strategic games, RPGs, and action-adventure games), levels of complexity, and styles emerged, all united by their setting: outer space. Over decades, graphics got more advanced, narratives and rules of play more complex, the spectrum of platforms more diverse, but it seems to have established itself as a solid fact that the merge of “outer space” and “cyberspace” proved to be successful and long-lasting. This text explores the conditions of possibility and implications of this bond, complementing existent literature on astroculture and introducing the question of video games into it. It also argues for the need in a discussion on the construction of outer space in video games, and points to the potential offered

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¹ *Spacewar* is a two player game where the players, each piloting their own spaceship, both attracted by a star in the middle of the screen, aim to destroy each other and have to manoeuvre so as to resist the deadly pull of the star. The game later inspired the development of many more advanced games with the same idea, some even going by the same name. (Graetz, 1981)

in this regard by the topological or spatial turn in video games studies. This perspective allows addressing the question of the relationship between cyberspace and outer space without getting caught up into questions of narrative or representation. Rather, we introduce the issue of whether outer space in cyberspace can even be referred to as “outer space” at all. If so (or not), what kind of (outer) space do video games typically offer, and under which conditions? Might it perhaps be more adequate to speak about an in-between space, contributing to a certain gamification of outer space, evident for example from the fact that space tourism simulations are on the verge of being proclaimed as “better than the real thing”?

The Cosmos of the Cosmological Blow

First of all, let us see where we are to start off. Thus far, a solid amount of scholarly literature has addressed various issues related to humans’ fascination with outer space, including historical (pioneered by the likes of McDougall (1986)), sociological (e.g. Dick and Launius, 2008; Harrison, 2002; Pass, 2006), and cultural studies² (like Geppert’s, 2012b) accounts of the relationships between culturally specific imaginaries of outer space and particular facets of cultural conduct, production, and modes of the latter. Despite the fact that many of these numerous accounts are – consistently with the relative novelty of relevant fields, such as cultural studies – fairly recent, there is an apparent lack in critical scholarly discussion on the significance of outer space related themes in video games. The lack is as gaping in video games studies as it is in social sciences and humanities based studies of outer space. Arguably, this is to the detriment of both fields, and not simply in terms of critical analysis for its own sake.

A brief overview on research into the cultural aspects of man’s conceptualizations and conceptions of outer space points to several important issues. Firstly, it allows to reframe a bulky part of the dominant Western historical narrative into a story of resistance against what Freud (1986c: 140–142) once referred to as “the cosmological blow” – the first of the three “blows” to “the self-love of mankind”,³ resulting from the fact that the discovery that

² *The most vibrant part of the debate within cultural studies of outer space and spaceflight now comprises studies of so-called “astroculture” (Geppert, 2012b: 25). According to Geppert (2012b, 8), astroculture “comprises a heterogeneous array of images and artefacts, media and practices that all aim to ascribe meaning to outer space while stirring both the individual and the collective imagination.”*

³ *Here, we are not arguing in favour of a particular theory of the subject, implied by the cited passage. Neither is it the purpose of this text, nor are we willing to engage in a debate on the ends and purposes of the specific rhetoric and articulation chosen by Freud in this particular passage, in a text set out to sketch out the significance of the psycho-analytical approach. It clearly should not be considered to be of primary importance to Freud’s thought, as, in the whole body of his work, he only refers to “blows to human narcissism” four times (see: Freud, 1986a; 1986b; 1986c), without much elaboration. We do, however, find the*

the Earth was not at the centre of the universe, which gained “general recognition” with the Copernican turn. The argument is thought-provoking in terms of pointing to a continuity between celestial cartography and other means of establishing mankind’s uniqueness, and a coherent, comprehensible worldview, getting recognized as “common knowledge”. In this light, the imaginary of outer space, as it is narrated in rationalist public discourse today, has more to do with the project of creating coherent, all-encompassing narratives and theories, arguably set out by the Enlightenment, than with the imaginary of outer space as such. Moreover, within a strongly anthropocentric paradigm, outer space seems to necessarily correlate to “otherness”. The issue thus appears to be: what is this “other space”, and what (if anything) is to be done about it.

Over the past two centuries, the West seems to have “travelled through” outer space mainly along two trajectories: subversion and exploration. On the one hand, outer space has frequently been seen in terms of its transformative and subversive potential with regards to the existing system. As pointed out by Shukaitis (2009: 99), outer space, so invitingly empty and foreign, periodically becomes fertile ground for the workings of “radical imagination” in attempts of creating “another world”. The radical potential of outer space seems to lie in the fact that it is not only “empty terrain”, but requires an entirely different system from the one currently functioning on Earth if it is to become something else than “other”. Colonisation of outer space according to earth law would then be more likely to bring dystopian results.

Outer space may thus be seen as an imaginal machine. However, “/t/he question is not really whether there are little green men or communist partisans on the red planet Bolleaux, but *what can be gained through the imaginal gymnastics of imagining our relation to them.*”⁴ (Shukaitis, 2009: 111) To reframe: the question is not only, how far one is prepared to go, and how radically one might like to think, but to what ends and with which implications one might choose to do so in the first place. In this sense, not only is this “gymnastics” to an important extent related to the underpinnings of our general spatial imaginary, the latter has just as much to do with perspective as with “space” *per se*.

In this sense, taking up the second obvious trajectory – extrapolating existent geography beyond the atmosphere of the Earth and, in very general terms, narrowing the question of outer space down to that of space exploration is merely a tactical step away from the core of the issue. It could be compared to various attempts of pre-Copernican medieval astronomers

text significant due to its reverberations in cultural studies of outer space or astroculture, where it has been used to outline a certain narrative on outer space, and inspired notions such as “cosmic provincialism”. It is in this respect that we refer to the text, and with the sole aim of clarifying that very narrative.

⁴ *Emphasis mine.*

to improve geocentric celestial cartography in a way to allow it to accommodate the ever increasing amount of “exceptions” from established rules. Here, we are pointing to two points. Firstly, cartography, including that of the skies, should be seen as more than merely a picture of the world, i.e. as a result of the prevalence of a certain topological imagination, and hence as a mechanism of power. Maps direct a perspective, delineate borders and frontiers, and, just as importantly, point to limits (see also: Günzel, 2007). Insofar as they are related to systems, and they are always necessarily at least interpreted from a perspective with a certain systemic component, maps are not simple pictorial representations of space but nodal points where narratives and rules of games are to meet.

In this vein, uncharted space is the only possible “other”, and only as long as it is not categorized as potential territory: territory is always already charted, even before it is physically explored, and thus inscribed into the system that is doing the charting. Drawing on Harvey (2003), Dickens (2009) combines this imperialist logic with the economic rationale of capitalism to argue that the cosmos is “capitalism’s outside”; uncharted territory, and to sceptically conclude that space exploration aimed at either search for new resources or markets (space tourism) is no more than a rather irrational “outer spatial fix” to “capitalism’s many crises.”⁵ (Dickens, 2009: 68–70) Nevertheless, while scepticism remains constrained to academic discussion,

an entire geography of outer space developed that presented itself as a continuation, if not a logical extension of earlier geographies of imperial expansion and colonial domination. At the same time, outer space developed into one of the major sites of twentieth-century utopian thinking, where relations vis- -vis science, technology and future were positioned, played out and negotiated as nowhere else. (Geppert, 2012b: 3)

Western imagination of outer space proved to be inclusive enough to accommodate both of these developments. This is key to the outline of the conceptual perspective that the text wishes to examine outer space from. It conceives of outer space both as an extension of dominant objectivist scientific discourse coupled with consumer oriented corporate capitalist logic, and as the only arena large and unexplored enough to allow challenging

⁵ *Ironically, he demonstrates in his conclusion that laying hope on such “fixes” is rather irrational, not to say probably just as utopian as hoping for the possibility of communist or anarchist paradise to come with man’s colonization of terrain beyond the Earth’s atmosphere: “there is actually little or no scientific rationale for putting humans into the solar system. ‘Humans’ as Steve Weinberg (a Nobel Prize winning particle physicist) puts it ‘don’t serve any useful function in space. They radiate heat, they’re very expensive to keep alive and desire to come back, so that anything involving human beings is enormously expensive.’” (Dickens, 2009: 79)*

this logic, but often already contaminated by established spatial and topological coordinates. Therefore, whichever of the two models prevails in a certain historical, cultural, and political context, it arguably still helps to uphold a narrative based on an anthropocentric and Cartesian topology. However, the ambiguity of the very concept of outer space actually outlines at least three paths that it can be enacted along: the third option would be constructing an entirely different topology, where the “either/or” outlined earlier would not even form part of the horizon of knowledge. The question that arises here, then, is: what conditions this path, and are its implications worth giving up the perspective, coordinates, and rules that we currently tend to endorse?

Taking off from Cyberspace

As hinted at above, recent studies in astroculture have revealed and explored numerous links between popular culture and geocentric – if not explicitly anthropocentric – representations of outer space. The issue has been addressed critically in studies persuasively showing continuity between imperialism, capitalism, and their inherent patriarchy, and popular cultural (re)presentations of aliens, space exploration, and, consequently, outer space as such (see McCurdy, 1994; Lathers, 2010). The links proved to be so strong that Geppert identifies this peculiar concoction of technological expansion⁶ and “down-to-Earth” imagination as “cosmic provincialism” (Geppert, 2012b: 5). On the other pole of the debate, accounts on how popular cultural addresses might be useful in encouraging further space exploration, and arguing for attracting even more public attention to it, have also emerged (Pass, 2006; Scatteia, 2005). Advocates of both positions have devoted a considerable amount of attention to the role that different cultural contexts play in establishing differing imaginations of outer space, focusing most extensively and intensively on the American, Soviet/Russian, and European backgrounds (for more, see e.g.: Geppert, 2012b; Dick, 2012). These analyses were not shy in focusing on a diverse range of media (film and television, propaganda literature, comic strips), and the varying impact they had on developing astroculture. Against the backdrop of what seems to be an increasingly vibrant discussion, the virtual absence of literature on outer space in videogames almost appears suggestive, especially if the “topological turn” in videogames studies is taken into account.

Outer space topography in video games is not simply an “interesting topic” that requires academic address merely because the theme of outer

⁶ *Pocock (2012: 323–238) even speaks about globalization being superseded by the age of “orbitization”.*

space is frequently recurrent in this domain. Rather, outer space in video games requires address due to the question of topology that it brings to the fore. Furthermore, if we take into account the scope of contemporary video gaming industry, the ever more apparent didactic potential of video games, and the ever greater awareness of the potential of gamification – in brief, using game-like approaches to certain quotidian matters in order to achieve desired results from the target audience quicker, easier, and with less negative feedback (see e.g. Deterding *et al.*, 2011) – the question of outer space in cyberspace (or could it be the other way around?) becomes significantly more complex.

First of all, it requires that we clarify the angle we discuss it from, i.e. the significance of the topological turn. In the sphere of video games studies, it is twofold. Firstly, the topological turn succeeded the great “debate that never took place” (Frasca, 2003) between the narratologists and ludologists, which brought about an emphasized awareness of the fact that both narratives and game-specific aspects (such as rules, setting the bounds of interactivity) should be taken into account in video games studies. Moreover, it offered a different – topological perspective which these two aspects of video games could be examined from. As a result, the theoretical backdrop of video games studies broadened significantly. Numerous scholars turned to Henri Lefebvre’s (1991) work on the spatialization, focusing on the *processes* of the production of space, rather than on space itself. Lefebvre distinguishes between “spaces of representation” (*perçu*) – material spaces, “representations of space” (*conçu*) – theoretical and other models of mediating spaces, and “spatial practices” (*vécu*), aligning representation, theory, and conduct. Consensus has not been reached on where video gamescapes might fit in this trialectic, or if, in fact, they at all should. In his essay titled “Allegories of space”, Aarseth (2001: 45) categorized them as a new type of representations of space; in contrast, Günzel (2007: 444) conceived of them as spatial practice or “lived spaces”. Fraser (2011: 98–103) on the other hand argues very perceptively that video games scholars focusing on Lefebvre’s work might benefit from a shift in focus. Rather than attempting to fit video gamescapes into this “trialectic”, they might consider the significance of Lefebvre’s insistence on the fact that space should be thought of in terms of process, rather than static representation. This reasoning is bound to have dire consequences for any following theory and analysis. Rather than focusing on representation, presuming an insurmountable divide between video game worlds and the “real” world, it advocates for a switch that would accommodate a more complex relationship between the two: “the knowledge we form of video games cannot be understood in isolation from other processes of ... spatial production.” (Fraser, 2011: 100) Furthermore, Fraser (*Ibid.*) argues that analysis of video game spatiality requires

“an understanding of knowledge as active, mobile, embodied, and largely self-directed.”

This point of departure does not necessarily lead to a deletion of any divide whatsoever between the virtual worlds of video games, and the world off-screen. Drawing on Nitsche's (2008) analysis of video game spaces, which demonstrates a strong emphasis on virtual world architecture, as well as incorporating insights from cultural, literary, and film theory, Fraser (2011: 101) maintains that space in video games has very specific properties that make it significantly different from both the world off screen, and other virtual worlds. However, he argues that it is crucial for video games studies scholars in particular, and the social sciences and humanities in general to acknowledge the fact that “the method through which we form knowledge of video game space is in fact the very method through which we form knowledge of ‘real world’ urban spaces.” (Fraser, 2011: 103) It seems reasonable to argue that it is not merely our knowledge of “urban spaces” that our knowledge of video game spaces correlates to. Speaking in terms of “active, mobile, embodied, and largely self-directed knowledge” acquired through video gameplay, various spaces spring to mind, not all of which – outer space being among the latter – might be termed as “urban”⁷ at first glance. Rather than speaking about the urban/rural divide in video games and off-screen spaces, it might prove more helpful to think in terms of gamification: the incorporation of game-related aspects into practices and environments, traditionally not associated with play or games. It could be argued that environments not accessible to everyman as of yet, such as extreme conditions (submarines, polar and outer space expeditions) could be more receptive to indirect gamification: getting associated with their video game interpretations. Coalescent with this angle is the common argument that games are simultaneously commodities and sites of meaning (see e.g. Warf and Shaw, 2009: 2). The interplay between these two angles is not completely arbitrary: no game can take one anywhere, and, as argued by Warf and Shaw (2009: 1), “it would be difficult or *self-defeating*⁸ to construct a game in which anything was possible.” And outer space is no exception.

Cyberlogic(s) of Outer Space(s)

The most general constraints that any game is faced with are related to its production. They refer to programming capacities, financial endorsement, target audiences, etc. Therefore, “anything” will not be possible, or, rather,

⁷ We purposefully refrain from an in-depth discussion on the definition of an “urban space” in this text, as it is not a key focus of our core argument.

⁸ *Emphasis mine.*

only “anything” that manages to get through all of these processes and survive will be possible, within the conditions of possibility set out by the game. From the perspective of the game universe, the most impossible within this realm of possibility would be glitches. From the player’s perspective, however, they are only impossible as long as he or she is immersed into the universe of the game, starting with that of the server or gaming platform. This is to point out that the limits of possibility experienced in video game spaces may stem from the game system, from the player’s world, or from somewhere in-between. And this is the starting point for our discussion of outer space.

Theoretically, outer space in video games could take on many appearances, function in diverse genres, and need not be conceived of as “outer” at all, as we attempted to show above. Acknowledging the existence of a close and complicated relationship between video game space and space off-screen means that no real impetus remains to conceptualize outer space as “outer”: it might as well remain referred to as “the universe”. And, from a different angle, the “outer space” of cyberspace – by definition an extimate space,⁹ need not be analogous to “outer space” off-screen.

However, this is not the case, as demonstrated by the mere titles of certain video game titles (e.g. the *Dead Space* franchise¹⁰, *Outer Space*,¹¹ aforementioned *Spacewar*, *Space Invaders*¹² ...). This implies that game-outer space remains closely linked to the outer space of the cultural imaginary beyond video games. Remarks like Shaw’s (2008: 116) are also suggestive: “The consensual hallucination of cyberspace only achieves consent in terms of the same hegemonic structuring of space as applied to the wilderness and outer space and, like the impetus to explore outer space, has its genesis and initial conceptualization in technologies first developed for military training and communications.” Shaw evidently implies that outer space, as well as the “wild, wild West” is still not only hostage to the Cartesian spatial project, consisting of x-y-z coordinates, but to the centuries-old colonialist paradigm, even in video games of the 21st century. Interestingly enough, her generalization is not too off track.

⁹ *Extimity is a lacanian term referring to the inexpressible residue of the intimate (not its opposite, but its integral, yet Other, aspect).*

¹⁰ *A graphically masterful survival horror third person shooter franchise by EA Games, focusing on survival on an abandoned interstellar mineship where Isaac Clarke has to battle malicious Necromorphs. The franchise comprises three games, the prequel, Dead Space: Extraction (2009), (Dead Space (2008), DS 2 (2011), and DS 3 (2013), as well as a comic book prequel, and two animated films. Special versions of the video game have also become available for iOS, Android, and BlackBerry Tablet OS since 2011.*

¹¹ *An online strategy game (2012) which allows one to become a “powerful commander in the dangerous universe”. (More on www.ospace.net)*

¹² *An arcade game by Tomohiro Nishikado first released in 1978. The purpose of the game was defeating waves of aliens by shooting them. It was later remade for various platforms and generated numerous sequels.*

An overview of video games explicitly focusing on the subject of outer space reveals that they can be divided into the following categories: space flight simulators; space mission and space systems simulators (these generally exhibit high levels of realism and a steep learning curve); games, where the idea of outer space is part of the narrative or background settings, such as the RPG *Final Fantasy* franchise,¹³ strategy games like *Civilization*, and *Sid Meier's Alpha Centauri*,¹⁴ or *Pikmin*.¹⁵ (Scatteia, 2005) To this, it seems necessary to add shooters (e.g. *Doom*¹⁶ or the aforementioned *Dead Space* franchise). All of these categories of games exhibit very explicit motifs, arguably naturalizing the presence of the outer space theme. These motifs are, as pointed out by Scatteia (2005: 556), incognito exploration, discovery, and the sense of journey. To this, one could add fighting against foreign intruders, if referring to the two categories we added to Scatteia's selection.

Games focusing on outer space therefore seem to concentrate on issues like flight techniques, strategic and military planning, virtual combat techniques, and maintain narratives such as that of infinitely dreadful, lonely, and dangerous space beyond the orbit of the Earth, or that of the imminence of man's gradual colonization of outer space. This does not have much in common with outer space being an "imaginal machine", to echo Shukaitis, or, at the very most, the imagination they seem to be building on, appears to be in line with the dominant discourse on outer space explored above. They do, however, seem to adhere to the rationale of "tether and accretions fantasies", which, according to Goetz (2012), are powerful assemblages that condition narratives, rules, and topologies of many contemporary video games. Games building on the tether fantasy are those based on an oscillation between feelings between safety and exposure, i.e. with regards to our subject focus, games like flight simulators or third person shooters. The accretion fantasy, on the other hand, builds on satisfaction gained from helping a vulnerable body, which could be said to underpin the imperialist narrative of many strategic games.

¹³ A famous, commercially extremely successful media franchise owned by Square Enix, based around a series of science fantasy RPGs, the first one dating to 1987. Originally developed for Nintendo Entertainment System, games (altogether 35) are now available for various platforms. The franchise also includes anime and comics, as well as many sequels to the games, sometimes branded under different names for specific markets.

¹⁴ Turn-based single- or multiplayer strategy games with a clearly imperialist narrative, the first developed by Sid Meier and Bruce Shelley (*Civilization* (1991). For more on *Civilization*, see Vrtačič (2013, this volume).

¹⁵ A real-time strategy video game series designed by Shigeru Miyamoto and developed by Nintendo. The *Pikmin* games all focus on exploring an unknown planet, controlling a crowd of *Pikmin* creatures. *Pikmin* are intelligent multi-colored plant-animal hybrids that willingly follow the orders of their leader, an alien from the planet Hocotate.

¹⁶ A 1993 science fiction horror-themed first-person shooter video game by id Software. It is considered one of the most significant and influential titles in the video game industry, for having ushered in the popularity of the first-person shooter genre.

If we extrapolate the logic of tether and accretions further, beyond the very basics of ludo- and narrato-logy, we can trace its workings in other aspects of the games, as well. Aside from general theme, basic rules, and narrative, what renders games coherent and comprehensive, are efficient mechanisms that foster the player's immersion, both diegetic, and intradiegetic. If diegetic immersion in the game can be secured by the consistency of narrative, rules, and settings, as outlined above, intradiegetic immersion relies heavily on topology and other spatial aspects of the game, such as consistency of chosen settings and perspective. (cf. Fraser, 2011) In outer space games, shooters usually typically rely on the first-person (interchangeably with third-person overhead) perspective,¹⁷ whereas strategic games provide god-view, and detailed maps of the situation; flight simulators often employ radar view, as well. This aspect of outer space games thus also merely reinforces existent stereotypes and preconceptions about outer space, as a dangerous, dark, and lonely environment, which humans are at some point going to colonize. Or, if dealing with alternative worlds (in cases of science fiction/science fantasy games), they may be less scary and possibly not dark at all, but – if not inferior to the human world – necessarily tailored along Earthly rules.

Radical Imaginaries beyond Outer Space

The vast majority of video games set in outer space or having expansion into outer space integrated into their narrative thus appears exceptionally down-to-Earth: they appropriate conventions either of the classical Western or of narratives of colonization. They establish outer space as – necessarily – the other pole of the binary, essentially turning it into hostile “other” space which is crucial to the consolidation of “our” pole of the binary. The epistemology of outer space set out by video games described above, expectedly, consistently more or less creatively fails in either establishing a coherent space which outer space would just be an extension of, or establishing outer space as a “thirdspace”, to quote Soja (1996: 5):

/T/hirdspace ... is rooted in just such a recombinatorial and radically open perspective. In what I will call a critical strategy of othering I try to open up our spatial imaginaries to ways of thinking and acting politically that responds to all binarisms, to any attempt to confine political thought and action to only two alternatives by interjecting an Other set of choices. In this critical thirding, the original binary choice is not

¹⁷ It should be noted that development in graphic design as well as the nearing prospects of affordable space tourism have led to a recent rise in the amount of first person games set in outer space.

dismissed entirely but is subjected to a creative process of restructuring selectively and strategically from the two opposing categories to open new alternatives.

This is not to say that video games do not offer the possibilities of establishing a “thirdspace”, or that they do not offer them to outer space. However, these possibilities can only arise from a constant, active awareness of the contradictions between the two poles of the binary. This awareness, and not digging sporadically into the seemingly unknown, might then lead to a shift in perspective, allowing for a performative topological curving.

If one were to search for such endeavours within the realm of video games, one would probably have to look away from industry created games, tailored for commercial success rather than self-reflection, or, at the very least, look away from games explicitly set in outer space, towards games pushing to escape the embrace of the anthropocentric gaze, and the dominant perspectives of Euclidean geometry and Newtonian physics. In order for spaces to functioning “imaginal machines”, one either have to consciously adopt an “imaginal” perspective, or would have to look away from games relying on the dominant scientific narrative they take as realistic, and the discourse of man’s eternal exploratory quest, set towards crossing ever new frontiers, and charting the land even once treaded upon as his (or, to adapt to 21st century standards of gender equality, hers).

Therefore, in order to be truly able to conceive of a space of radical imagination, one would need to give up the comfortable coordinates of science fiction that in most cases effectively turns out to be technological fiction – fictional narratives, based on contemporary technological achievements, extrapolating them in order to conquer new, more complex tasks, as of yet inaccessible to contemporary technology. Furthermore, one would have to give up on narratives of science fiction which, following more general scientific assumptions, rely on their extrapolations for creating fictional worlds. Or, to quote Meillassoux (2012):

future possibilities, however earth shattering they may be, stay, as science fiction, within the orb of science. All of science fiction implicitly supports this axiom: in the anticipated future there is still the possibility of subjecting the world to scientific knowledge. Science will be metamorphosed by its new power, but it will still exist as such. This, of course, explains the generic name for this literary genre: fiction may produce extreme variations, but it is still part of a science which is always present, even though it is not always recognizable.

This applies to both games exploiting the potential of technological fiction (e.g. flight simulators and simulators of space missions, and, to an extent shooters), and those less dependent on immediate pragmatism, exercises in science fiction in the broader sense (some RPGs, as well as certain shooters). These games build on the implicit assumption of not only an existence, but the supremacy of humanly designed scientific discourse. They might allow its transfer to other (alien) species, but that generally brings about an anthropomorphism of the latter. Humans or superior species with distinct human traits are, as a rule, masters of scientific discourse, even if for some reason or another deprived of access to the most advanced technology. This perspective and its corresponding topology reveal high concordance with strategies of minimizing the horror of the “cosmological blow” which can be read alongside the proliferation of correlational philosophical systems. It offers a rather simplistic “way out”: re-establishing man’s central position within a decentralised universe through the possession of scientific reason on the one hand, and technological progress, on the other.

Curiously enough, Hanna Arendt reflects on a very similar state of affairs in *The Origins of Totalitarianism*, comparing mass submission to totalitarian propaganda, which can only “insult common sense where common sense has lost its validity” (Arendt, 1958: 352), with an escape from reality, yearned for by the masses, living in an accidental, incomprehensible world, who “need the constant transformation of chaotic and accidental conditions into a man-made pattern of relative consistency.” (Ibid.) Without fear of overstretching this analogy, it is possible to argue that the persistent search for coherent narratives, supporting the image of a consistent, rational ego, corresponds to a world that persistently actively propagates the adequacy of this image, presents it as an ideal, yet simultaneously denies it possibilities for actualisation, except for within the highly regulated domain of virtual reality. It is in this vein that Virilio’s (1994) pessimistic vision of “a world where there won’t be one but two realities” – a “real” and a “virtual” one – should be read. It is not the split between reality off- and on-screen, that is problematic *per se*. Rather, it is his insistence that it is the will to reduce the world to the point *where one could possess it*¹⁸ that will prevail in the end. This will is, in his argument, exerted by what he terms “military technologies”, but can easily be abstracted to those processes directing the reach and effects of technologies in a broader sense. It is of course also implied by his argument that this very same world actually provides extensive possibilities for subverting this pessimistic narrative: one needs not decide to reduce it to this miserable point. However, to do so, one would have to renounce any kind of privileged space in it.

¹⁸ *Emphasis mine.*

Arguably, this renouncement would allow for an opening of the “space of radical imagination”; speaking in terms of fiction, it might lead to a serious bending of its horizon. To date, it seems that speculative realism might offer the most fruitful grounds for this turn. Indeed, the concept, or rather, suggestion of a new literary genre, of “fiction beyond science” has been proposed by Meillassoux (2012). Although his arguments refer to literary fiction, it might be of use to consider their relevance for video game scenarios as well.

Meillassoux argues there might be three paths out of the narrative directed by natural science, three possibilities of thinking in terms of “fiction beyond science.” Only one of these models, he emphasizes, was foreseen by Kant, i.e. “Type 3”, the most chaotic model, “not really ... a world at all”, a universe where disorder would prevail to the extent where “conditions of science like those of consciousness would be abolished.” (Ibid.) However, aside from this maximalist vision, there are still two other possible models of worlds “beyond science” that might be thinkable, and, in a sense, liveable. If the conditions of consciousness are to be kept as key to our capacity of conceiving of these worlds, conditions of science can – and, in fiction beyond science, should – be tampered with. In what Meillassoux terms “Type 1” worlds, they may be simply thrown off the pedestal, leading to conditions that “allow for events seemingly without cause, but whose application is too rare, too spasmodic” to endanger science as consciousness: these events would consist of observable causal breaks, which are impossible to re-create in a regular fashion” – these worlds are then, technically speaking, not beyond science in the full sense of the word, as they retain *science as conscience* despite acknowledging its imperfect explanatory potential. If looking at contemporary science fiction, it is perhaps this type of worlds that it has come closest to creating. However, it is problematic to argue that it succeeded in doing so, as irregularities in science fictional worlds tend not to stem from the imperfection of science itself, but rather from the imperfections in characters’ consciousness, preventing them from equating their scientific consciousness to science as the principle explanatory mode; preventing them from grasping the “super theory of super-everything”.

In this light, it seems even more utopian to expect for technological or science fiction to even attempt to play around with the idea of “true fiction beyond science”, according to Meillassoux’s typology, “Type 2” worlds. These worlds still retain conditions for science, i.e. it is neither outlawed nor completely impossible, yet due to significant, frequent disorders, prevented from being elevated to the point of “science as conscience”: conscience as such is not abolished, but science has no place within it:

in this kind of world there is a supreme inconsistency: daily life might still consist of quite relative stabilities, strong enough to allow for conscious existence. This would be a world in which there would be certain accidents, sudden “skidding off the road” of material objects, too rare to effectively destroy all human life, but also too rare to allow for repeatable scientific experimentation or explanation. (Meillassoux, 2012)

Meillassoux uses this Type 2 world to demonstrate that untying the knot between science and consciousness does not necessarily mean “the ruin of thought”. (Ibid.) Rather, using social reality to demonstrate a functional analogy, he argues that “such a nature, which is capable of such marginal caprices and epochal modifications, is effectively plausible – and with it a social unbonding of the conditions of possibility in science and of conscience.” Fiction beyond science, and with it, outer space beyond science, therefore does not imply using science as a scapegoat for a general lack in both incentive and ability to conceive of outer space beyond two models, provided by trivialized generalizations of scientific discourse. Conditions of fiction beyond science point to the problem of an established and persistent hierarchy in discourses, where science is bound to consciousness. It is this aspect that, it would so seem, might benefit from encountering a barrier, forcing a certain topological curving; squeezing the “beyond” out of the practical impossibility encountered within available coordinates.

Conclusion: Back to Ground Control

Apart from building models, and trying to adapt reality in order so it would “fit”, one could thus, for example, imagine social *reality*, not its *model*, but its everyday “print-screens”, with their inconsistencies, contingencies, and patterns that from certain perspectives resemble laws, as an analogy through which to conceive of science. This would create a legitimate space for coincidence, a key aspect of imagination, if not, as we have shown, always fiction, in scientific models. One might imagine that such a bend in perception could lead to a change in the general attitude towards the contingent, as well as the linear and seemingly progressing. In other words, while discarding all kinds of systems in favour of radical contingency might turn out to be just as “self-defeating” as blind adherence to them, and both extremes seem fantastic and uncanny, it seems that a productive path out of these dead alleys could be loosening the bond between consciousness and science.

How could conceive of such spaces through videogames? Looking for them in games characterized as simulations, attempting to copy established conventions of space-time and narrative as closely as possible, seems futile.

The same can be said about classical science fiction games, and those taking up an explicitly anthropocentric position (e.g. shooters). This implies that mainstream video games either set in outer space or having it as a key aspect of their narrative, might quickly be discarded. However, if one considers, for example, scenarios such as multiplayer mode, or the option of pressing “PAUSE”, one just might get the gist of where bending perspectives begins. To start with the former, it could be argued that multiplayer mode effectively results in the formation of a space that exceeds both the virtual realm of Cartesian x-y-z coordinates of the game, and that of off-screen physical space, enabling players to enter into object to object relations rather than reproducing the model of an anthropic centre and objectivized periphery. As for the latter, from the point of view of the gameworld, the ability of pressing “PAUSE”, suspending the game, and the “world”, seems to be a superpower; it has nothing to do with science, either that of the gameworld or that of the player. It does, however, have a lot to do with the hierarchy between the two worlds. The question these two issues open up is too complex to be saved for the conclusion of this text. However, they suffice to illustrate its core argument: in order to “open up” the question of outer space, a turn beyond narrative and representation is more than necessary, and it appears that video games can serve as an appropriate platform for this “turn”. Rather than introducing the question of outer space into video games studies, we cannot but conclude with a call for a more “topological” discussion of outer space, for which video games should prove to be both inspirational and illustrative.

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