Neal Stephenson's *Reamde* (2011): a Critique of Gamification

Neal Stephenson's writing has in many ways shaped post-cyberpunk science fiction as well as having a massive influence on real-world technology, so his move to realism with 2011's *Reamde* offers an opportunity to understand science fiction's changing relationship to realism in the twenty-first century. Stephenson is considered a core cyberpunk writer thanks to 1992's *Snow Crash*, a novel that depicts an online virtual world known as the 'Metaverse'. This novel is based on the premise that the actions of an online world could have a material impact on participants outside of the game: namely, gamers can be brain damaged by a computer virus. Stephenson has continued to explore these themes throughout his career, but recently through contemporary settings, rather than the futures of his science fiction. Stephenson's *Reamde* could therefore be considered an example of 'science fiction realism', a term coined by Veronica Hollinger to describe William Gibson's *Pattern Recognition* (2003), a novel which also uses science fictional tropes and techniques, but in a contemporary setting. *Reamde*, like *Pattern Recognition*, also borrows tropes from the thriller and espionage genres as it spans over a thousand pages and many continents, weaving an international story of adventure, kidnapping and terrorism. The novel tells the story of Zula, an Eritrean orphan who was later adopted by gun-toting parents from Ohio in the USA. Zula's boyfriend Peter sells some credit card data to an unhinged member of the Russian mafia known as Ivanov, only to find that the information has become encoded by a Chinese hacker known as 'the Troll' using a file called REAMDE (a misspelling of the common filename, README). Zula and Peter are kidnapped by the Russians and brought to China where they are forced to help discover the identity of the hacker in order to free the data. The Chinese hacker holds the data ransom until victims agree to pay him in the game world of *T'Rain*, a massive multiplayer online role-playing game (MMORPG) which happens to have been the brainchild of Zula's uncle, Richard Forthrast. As the novel continues some of the key events happen within the world of the game as the stakes that have always been real for the Chinese hackers, making their living through online worlds, become real for Richard and his family as they try to save Zula. After escaping the Russians, Zula falls into the hands of Welsh terrorist Abdullah Jones and his gang who fly her to Canada before a final showdown in the woods of the northern USA. Like Gibson, Stephenson is reacting to a present that changes too quickly for a future to be extrapolated by moving from cyberpunk to realism, but his novel still performs one of the most important tasks of which science fiction is capable: it considers the potential impact of a current trend in order to allow the reader to question their contemporary paradigms.

In *Reamde* Stephenson primarily critiques gamification, the increasingly common application of games and gaming models to 'real' life problems. Gamification's roots are found in marketing as public relations companies attempt to harness the compulsive nature of games in order to keep consumers engaged with their brands and, ultimately, to sell more products. Although this desire to make gaming mechanisms marketable was the original impetus behind gamification there have been calls from some proponents to use these techniques in every aspect of life. Game designer Jane McGonigal has been one of its most vocal supporters through her book *Reality is Broken: Why Games Make Us Better and How We Can Change the World* (2011) as well as through multiple public appearances and a TED talk with over three million views (McGonigal 2010).[1] McGonigal has since somewhat distanced herself from the term 'gamification' in a welcome acknowledgement of some of its problems but she continues to promote other tactics of gamification under the rubric of 'gameful design', which seeks to bring the 'feeling' of a game to real life situations and to use this feeling to encourage the development of life goals or greater social projects (Alexander 2011). While the most visible aspects of gamification in marketing (such as

badges and superficial rewards) have been recognised by McGonigal and others as somewhat cynical and potentially exploitative, there is still an effort to salvage the more significant, less visible aspects of gamification such as its potential to manipulate everyday behaviour and to harness online gamers as a 'human resource' to solve problems such as climate change, obesity, poverty and global conflict (McGonigal 2010). In *Reality is Broken*, McGonigal urges just such a radical use of gaming models to change the ways in which human beings relate to the reality of the world around them:

> What if we decided to use everything we know about game design to fix what's wrong with reality? What if we started to live our real lives like gamers, lead our real businesses and communities like game designers, and think about solving real-world problems like computer and video game theorists? Imagine a near future in which most of the real world works more like a video game. (McGonigal 2011: 7)

The problem that gamification can apparently address is a lack of 'engagement', or a sense that the 'real' world is not as fun as it should be. This lack of engagement is attributed to the chaos and complexity of contemporary society. For example, Gabe Zichermann claims that:

> gamification is needed more than ever. We live in a world of increasing distraction and complexity, where organizations need to cut through the noise and users need systems that can help them achieve their full potential. Well done gamification has the power to accomplish that and more. (2013a: n.p.)[2]

This emphasis on 'cutting through the noise' gives little thought to the value of our attention. It assumes that 'engagement' alone is a goal worth striving for. However, in doing so, gamification treats engagement as a commodity. A technique that can force consumers to pay attention to certain brands, or encourage employees to be more productive has a high monetary value and gamification seeks to profit from that value. The applications for gamification are also thought to be limited because goal-oriented models, such as those found in video games, can encourage people to meet a pre-assigned goal, but not to deal with a complex situation. This is less of a problem if the task is simply to keep a consumer engaged with a brand, or to keep an employee engaged in productive labour. Some of these criticisms have been aired by Ian Bogost in 'Why Gamification is Bullshit' (2011). Bogost draws on Harry G. Frankfurt's essay 'On Bullshit' (1988) in which the philosopher unpicks the specific meaning of the term 'bullshit' and its importance in our culture. Frankfurt argues that bullshitters, unlike liars, have no interest in the truth and no relationship to it: their words and deeds are designed to create an illusion for their own benefit, to pull the wool over the eyes of their interlocutor in order to achieve their own ends. Through this understanding Bogost concludes that gamification is indeed bullshit as there is no interest in finding out whether gamification has positive potential, only in using it as a marketing tool. This being the case, Bogost suggests the term 'exploitationware' might be more appropriate.

Stephenson's novel performs the very thought experiment that McGonigal suggests and imagines our contemporary world as working 'more like a video game'. He engages with the gamification of our societies, our relationships and our minds in *Reamde*, as we will see from a consideration of Zula as the focalising character and the primary locus of morality in the world of the novel. Before looking at this more closely however I will explain Stephenson's relationship to science fiction in this novel and how he continues to use the future to analyse the present, even when that future is already upon us. Science fiction has always been used to analyse the present, particularly the impact of new technologies on contemporary modes of being, and Stephenson's most recent novel is no exception, but

instead of an explicit engagement with science fiction Stephenson writes *Reamde* as a thriller, somewhat closer to the realist mode. This decision is an important step in understanding the project he undertakes in the novel and the ways in which he criticizes contemporary society.

Stephenson's science fiction realism

Stephenson's move from science fiction to realism in this novel as he critiques the very contemporary issue of gamification echoes that of his contemporary, William Gibson, who also uses contemporary settings in his Blue Ant trilogy (2003-10). Both Stephenson and Gibson have been instrumental in building science fiction's reputation for, not predicting, but performatively creating the future. Gibson famously coined the term 'cyberspace' in *Neuromancer* (1984), while Stephenson's *Snow Crash* uses the word 'avatar' to refer to an online persona for the first time and describes an online world where avatars could engage with one another: something that, at the time, was only possible in science fiction. Stephenson describes his main character Hiro's experience of this online, immersive environment: 'So Hiro's not actually here at all. He's in a computer-generated universe that his computer is drawing onto his goggles and pumping into his earphones. In the lingo, this imaginary place is known as the Metaverse' (22). This Metaverse was later credited by Philip Rosedale, creator of the online virtual space *Second Life* as a key inspiration (Maney 2007) and Stephenson jokes in *Reamde* about his description of a programme strikingly similar to *Google Earth* in *Snow Crash*, years before: 'The opening screen of *T'Rain* was a frank rip-off of what you saw when you booted up *Google Earth*. Richard felt no guilt about this, since he had heard that *Google Earth*, in turn, was based on an idea from some old science-fiction novel' (2011a: 38). The irony is that science fiction created the future in which we now live, and now it can feed on our contemporary reality while still exploring the same issues. Stephenson's importance in inspiring the structure of the online life as we know it today reflects William Gibson's impact as his genre-defining novel *Neuromancer* (1984) and the sequels which followed gave programmers a way to cognitively map how online spaces might be expressed through user interfaces. Other post-cyberpunk writers such as Cory Doctorow often deal with realistic environments that may be set in the immediate future or in an alternate present with only slightly more developed technology than we have today. In some of these novels it is difficult to identify the nova, the changes that have been made to render the novel's genre as science fiction.

In order to describe William Gibson's move from science fiction to realism in *Pattern Recognition*, a novel that functions as a realist text but that repeatedly questions the meaning of realism in a world where technology is constantly changing, Veronica Hollinger coined the term 'science fiction realism'. Hollinger uses 'science fiction realism' to describe a kind of literature which realises that 'there is not much difference any more between the facticity of realism and the subjunctivity of science fiction' (2006: 452). N. Katherine Hayles also remarks on this trend as she notes that 'science fiction writers, traditionally the ones who prognosticate possible futures, are increasingly setting their fictions in the present' (2005: 149, n. 2). Stephenson is very conscious of the role he has to play, as a science fiction writer, in influencing the future. Not only has he influenced the development of virtual worlds thanks to *Snow Crash*, but he has also helped to set up Project Hieroglyph which aims to bring together science fiction that shows the techno-optimism of the Golden Age and can thereby act as an inspiration to scientists of the future. Stephenson has warned against a genre that behaves as if 'we have all the technology we'll ever need, we seek to draw attention to its destructive side effects' (2011b: 13). Despite this concern with contemporary science fiction, Stephenson issues exactly this kind of warning about the harmful side effects of gamification, via the form of science fiction realism, rather than developing the utopian potential of video games espoused by McGonigal and others. This should not be misunderstood as a mindless

attack on a relatively new medium – Stephenson has spoken publicly about his fondness for video games, particularly *Halo 3* (Sinclair 2011) – but rather as a sceptical approach to the extension of gaming behaviours into physical reality.

Stephenson's decision to move to realism may have been influenced by some of the same factors as William Gibson. Gibson is broadly in agreement with Hollinger's understanding of his work as he has repeated throughout his career that all science fiction is about the present and that extrapolation is barely possible when the present is so volatile that we 'have insufficient "now" to stand on' (Gibson 2003: 57). While Stephenson still works to promote techno-utopianism in science fiction he has certainly expressed similar sentiments. At the Game Developers Conference 2011 (a conference that also hosted Jane McGonigal sharing her thoughts on gameful design) Stephenson gave a keynote speech in which he referred to gold farming, the practice of undertaking repetitive tasks in the game for virtual coin that can then be exchanged for real world currency, as 'one of those things that makes you want to quit writing science fiction because you could never think of something that weird' (Sinclair 2011). Gold farming is featured in *Reamde* as a practice that can be undertaken by the Chinese hackers and other third world communities as employment, a topic that has also been explored by Cory Doctorow in *For The Win* (2010). Video games have become real enough and immersive enough to offer virtual reality in a way that cyberpunk could only imagine in a science fictional context. They have also been integrated into our cultural understanding so that we can read video game tropes in literature and film as realism without being estranged.

Stephenson's novel, like Gibson's, is 'a story about the problematic impact of the future, the future in/as technoculture - on the present' (Hollinger 2006: 452) but while these novels function as science fiction realism, they also work use aspects of the international crime thriller genre. Gibson uses the format in *Pattern Recognition* as Cayce seeks out the creators of the Footage and the two sequels *Spook Country* (2007) and *Zero History* (2010) are in a similar vein as the main character investigates a mysterious shipping container and then a secret clothing brand. Meanwhile, Stephenson shows an almost outlandish affection for this genre. Zula faces one insane event after the other: capture by Russian mafia, a gunfight, kidnapping by terrorists, murdering a man with a broken DVD of the film *Love Actually*, and finally surviving in the woods of Canada and the northern USA. David Glover describes the genre of the thriller as differentiated from detective fiction by its structure, which affects the reader by piling thrill upon sensationalist thrill: 'set against this kind of psychic and epistemological turbulence, any investigative impulse seems to fall short or to seem woefully inadequate, as if the deductive model cannot contain the implication of its own findings' (2003: 138). This certainly applies to *Reamde* and its series of incredible events. Like science fiction realism, the thriller encourages the reader to recognise that extrapolation is not possible in such a fast-moving world.

Reamde's critique of gamification

Reamde's critique of gamification is woven throughout the various threads of the narrative as Zula and the others captured by the Russians deal with a situation reminiscent of a computer game; violent, action-packed and increasingly dangerous as if each incident leads to a level of higher difficulty. At the same time, the stakes in the virtual world are revealed to be much higher than those of a mere computer game as Richard uses *T'Rain* to trace Zula's last known whereabouts and to attempt a rescue mission. The real and virtual worlds and the tactics demanded by each do not stay where they belong, but bleed in either direction so that the real world is gamified as the stakes in the virtual world grow higher. As in *Snow Crash*, which posited a computer virus that could cause brain death in hackers, the actions which occur in the virtual world can lead to real death for Zula, Peter and the creators of the REAMDE virus.

Reamde describes gamification as imagined by contemporary advocates like Jane McGonigal and Gabe Zichermann as Richard Forthrast uses *T'Rain* and its world to make reality more engaging. Richard uses *T'Rain* to make boring jobs more interesting, so that employees can perform better, rather than being bored to the point that they lose awareness. Examples given in the novel are of airport security guards who are paid to watch a stream of people exiting the secure area of the airport all day in order to make sure that no one goes against the tide, or workers paid to spot faulty widgets on an assembly line. Both these tasks can be coded into *T'Rain* so that the worker experiences their job as a medieval combat scenario. The point is made that:

> if their pattern recognition software could identify the moving travellers and vectorize their body positions well enough to translate their movements into *T'Rain*, then it could just as easily notice, *automatically*, with no human intervention, when one of those figures was walking the wrong way and sound the alarm. There was no need at all to have human players in the loop. (136; emphasis in original)

Stephenson uses the term 'bogosity' to denote the bogus nature of this gamification, a term that can be read as a form of the word 'bogus' but could equally be related to 'Bogost' and his insistence that 'gamification is bullshit' (2011). Richard's response to the critics strengthens this association: 'Did you, or did you not, tell me that this was all marketing? What part of your own statement did you not understand?' (136). Bogost's accusation that gamification is all about marketing rings true here in Richard's attitude. The proliferation of these gamification apps creates an unfortunate side effect as *T'Rain* is 'far more intensively patched into the real world than a quasi-medieval fantasy world [has] any right to be' (138), a factor that spreads the REAMDE virus extremely quickly to millions of users, even those who are not gamers. Stephenson shows that gamifying tasks and environments can render them weaker as the loss of complexity makes systems open for attack, and human beings less equipped to deal with that attack when it comes.

While gamification argues that gaming tactics should be exported into the 'real' world, *Reamde* shows the reverse of this situation; the regularity with which the gaming environments are used for 'real' world disputes and criminal activity, like that of the Troll and other, lesser gold farmers. *T'Rain* is designed with the kind of libertarianism in mind that expresses itself throughout the Forthrast family in their gun ownership, survivalist lifestyles and associations with drug-running. When Richard begins to design the game he does so with these real world uses in mind:

> Video games were a more addictive drug than any chemical as he had just proven by spending ten years playing them. Now he had come to discover that they were also a sort of currency exchange scheme. These two things – drugs and money – he knew about. The third leg of the tripod was real estate. In the real world, this would always be limited by the physical constraints of the planet he was stuck on. But in the virtual world, it need be limited only by Moore's law, which kept hurtling into the exponential distance. (2011a: 34)

As he works towards the goal of making video games useful for such traditionally real life pursuits as drugs, currency and real estate, Richard passes around a memo in which he explains to his staff that, 'anyone who feels like it ought to be able to grab hold of our game by the technological short hairs and make it solve problems for them' (131). However, such a strategy allows the Troll the freedom to invent and spread the virus that will ultimately lead to Zula's kidnapping. This is not necessarily an argument against libertarianism more

generally - the novel is predominantly kind towards libertarian lifestyles that are often dismissed or derided by liberal thinkers, such as those of the American survivalists – but it does show that the integration of games with other infrastructures can have unintended consequences, such as weakening security systems.

While the gaming world proves effective as an arena for money laundering and blackmail through the Troll's virus, it succeeds less well as a moral space. The amorality of the gaming world is highlighted through a discussion of the game mechanics themselves. *T'Rain* allows gamers to choose a 'team', so that they can be 'Good' or 'Evil'. However, as time has gone by the game has become host to a 'War of Realignment' (or, 'Wor') as the characters divide themselves into two groups based on the colours they choose for their avatars. One of the game designers explains to Richard that the fighting based on colour has more power in the game because the labels of 'Good' and 'Evil' had not reflected real moral or ethical positions:

> '…the people who called themselves Evil weren't really doing evil stuff, and the people who called themselves Good were no better. It's not like the Good people were, for example, sacrificing points in the game world so that they could take the time to help little old ladies across the street… we set them certain tasks that had the "Good" label slapped on them; but, art direction aside, they were indiscernible from the "Evil" tasks.'
> 'So the Wor is our customers calling bullshit on our "Good/Evil" branding strategy, you're saying', Richard said. (Stephenson 2011a: 227)

The designer explicitly draws attention to the lack of connection between the gaming world's label of 'Good' and an action in the external world: helping little old ladies to cross the road. This exchange shows an important point about the mechanics of the game: they are designed for internal coherence rather than for their impact on external factors so that, while the game can stimulate certain behaviours, this is not based on morality but on the manipulation of the player through rewards and other game mechanics. The player can react to the prompts of the game world without engaging in moral or ethical contemplation.

The amoral construction of the game begins to bleed into real life as reality becomes gamified and goal-oriented behaviour disrupts the characters' moral and intellectual thought processes. Richard feels the effects of gaming on his internal experience of his own cognition. At one point he feels that something is bothering him and as he tries to figure out what it could be he thinks, 'it was like a puzzle in a video game' (30). Zula, Peter and another hacker named Csongor are given a goal, again, similar to a puzzle in a video game, by the Russian gangsters; to find the Troll so that the Russians can kill him. The novel uses *T'Rain* as the backdrop for some of the action as characters can meet in the game and communicate through it. Zula has spent time working with the game as a programmer and when she is first kidnapped she tries to locate the Troll in *T'Rain* and finds herself seduced by the addictive nature of the game:

> There was something deeply wrong about the situation, and the only thing that had kept her from simply running out the door and flagging down the first car she saw and asking them to call 911 was the addictive quality of the game itself, her own inability to pull herself out of the make believe narrative [in which she had found herself]…She'd always scorned people who compulsively played these games when they should have been studying or exercising. Now she was playing the game when she should have been calling the cops. (2011a: 107)

Zula finds that the goal-oriented nature of the task directs her behaviour, closing down options that do not directly lead to figuring out the identity of the Troll, even when the action is no longer taking place in the game. She reminds herself as the action moves into the real world:

> There was a moral aspect to this. She'd failed to see it at all… Now, though, she was being asked to give up another person: a complete stranger, somewhere, who had created REAMDE. She had not volunteered for the job. (123)

Zula recognises the amorality of the game, and of goal-oriented behaviour, as she decides not to let herself be controlled. Her insistence that she has not volunteered makes her self-aware enough to fight the effects of gamification, even as she feels herself compelled to help Ivanov find the Troll. Zula's consideration of the moral aspect of the situation is in stark contrast to the lack of moral consideration found in gamification, even as it seeks to guide the behaviours and the agency of those taking part voluntarily, or being targeted by an employer or a corporation. The search suffers a setback at one point and Zula reminds herself:

> It was *good* luck, not bad, that they couldn't figure it out; turning the troll over to Ivanov would be a *bad* thing. She was a little perturbed by how easy it was for her to get caught up in the excitement of the hunt. (263)

While Zula becomes self-aware about the tunnel vision caused by aiming towards a goal at the cost of all else, Peter and Csongor are completely absorbed in the task. Zula realises: 'they were actually trying to solve the technical problem of locating the Troll. Which might have been Ivanov's problem, but it wasn't theirs. Theirs was Ivanov' (159). The goal is imposed by Ivanov, who Zula has no wish to help, but the compulsion to rise to the challenge is a strong one that must be fought, like the compulsion to continue playing the video game. In order to keep this in mind, rather than getting carried away like Peter and Csongor, Zula has to set her own goals rather than being distracted by Ivanov's demands:

> That, as she had to keep reminding herself, was the only thing that mattered. Not catching the Troll. But making Ivanov believe that they were making progress towards catching the Troll, stringing him along, long enough for them to think their way out of this. (203)

Zula's self-awareness allows her to hold on to her morality and to maintain control over her own actions as she never falls into the trap of believing that the ends justify the means. She holds this in common with a character from *Snow Crash*, Juanita Marquez, a skilled hacker who helped to create the Metaverse. Juanita invents the technology to reproduce realistic facial expressions in the Metaverse, but later withdraws from the online world as she believes, 'no matter how good it is, the Metaverse is distorting the way people talk to each other, and she wants no such distortion in her relationships' (60). Like Juanita, Zula struggles to stay grounded as technology warps the relationships between people. The urge to achieve a goal or to overcome a challenge, a compulsion honed in video games, makes other people easier to control but Zula manages to resist. Through showing the problems with gamifying non-game experiences the text adopts a moral position, which is that the ends do not justify the means. Even if a 'goal' has been achieved, this cannot be considered an unambiguous victory because reality, unlike a video game, is not goal-oriented in the same uncomplicated way.

Through this consideration of control and manipulation, Stephenson broadens the critique of gamification into a discussion about the ethics of controlling human behaviour more generally. When Zula is kidnapped by the terrorists their leader, Abdullah Jones, tells her that his associate, Khalid, is a rapist who has murdered women before as a result of his warped, fundamentalist beliefs. Jones explains his reasoning for telling Zula about Khalid's past:

> 'You may have *reckoned*, but now you have gone beyond mere *reckoning*. Now you *feel* it so that it will guide your actions.'
> 'Guide or control?'
> 'That's a Western distinction.' (419; emphasis in original)

The explicit threat in Jones's discussion of Khalid's violent past draws connections between threats, blackmail and any kind of manipulation that attempts to impact the behaviour of another human being. These different levels of manipulation are equally dangerous, and gamification, by attempting to influence human behaviours (even with the best of intentions) is placed on this scale. The grey area that distinguishes control from guidance is really the area where much of the novel's action is played out.

Conclusion

Neal Stephenson's critique of gamification in *Reamde* is notable primarily for two reasons. On the level of content, the novel challenges societies and individuals to take a philosophical approach to new technologies and to gamification in particular. While the distrust of gamification began as a reaction to its cynical use as a marketing tool there is arguably now a greater need for a critique of gamification than ever before if one considers the way that social media gamifies personal relationships. *Twitter* and *Facebook* encourage users to interact with incentives such as likes, favourites and comments which are translated into 'notifications', a process that quantifies interpersonal engagement and encourages an entrepreneurial approach to such interaction. This was pointed out by Charlie Brooker in his Channel 4 television programme *How Video Games Changed the World* (2013). Brooker's show used a chart format to list the 25 games that, in his opinion, have had the biggest impact on society and Brooker named the social media platform *Twitter* as the most influential 'game'. While *Twitter* is not marketed as a game, Brooker argued that the urge to gain more 'points' in the form of followers or retweets constituted a game mechanic that encourages users to treat their thoughts and their social lives as a game. The spread of gamification from the realm of the console, to marketing platforms and finally into social media and our social interactions is certainly a cause for further comment and concern, some of which will be carried out in the pages of science fiction novels.

The debate surrounding gamification, which began in the gaming community, now also feeds into a wider concern about the impact that information technology is having on our cognitive, problem-solving and ethical abilities, as explored by Nicholas Carr in 'Is Google Making Us Stupid?' (2008). Carr observes that the change in media is producing a change in our thought processes:

> Thanks to the ubiquity of text on the Internet, not to mention the popularity of text-messaging on cell phones, we may well be reading more today than we did in the 1970s or 1980s, when television was our medium of choice. But it's a different kind of reading, and behind it lies a different kind of thinking—perhaps even a new sense of the self. (Carr 2008: n.p.)

These concerns about gamification, changes in reading habits and changes in our sense of self as a result are all connected and a ripe ground for exploration by cyberpunk and other science fiction writers who have been explicitly examining such concerns for the last thirty years. The form of Stephenson's voluminous novels, particularly when turned to an exploration of how reading and interacting with media shape our relationship to the world, act performatively as a means of reconnecting the reader with the realms of deep thought, even as the heady rhythm of action invoked by the thriller makes the reading experience as fast a process as slipping down a water slide. The form of the novel is even more interesting for its use of genre as Stephenson uses elements of the thriller, a more realist genre than that of science fiction, showing how the genre boundaries must continue to blur in a society that experiences technological change as constant and the present as a fluid place, not long enough to take stock of the past or to extrapolate into the future. Like Gibson's *Pattern Recognition*, Stephenson's *Reamde* moves from cyberpunk to realism in search of the next thought experiment, the one suggested in Jane McGonigal's ode to gamification: 'imagine a near future in which most of the real world works more like a video game' (2011: 7).

While gaming is an exciting medium that can be used to tell great stories in an engaging way – and it can even be used to make everyday tasks more fun – it cannot be the grounds for a reshaping of reality. While games are often engaging, they are not always engaging in the right way, or guiding attention in the right direction when taken out of the gaming context and applied to real world problems. Reality should not be about achieving specific, pre-ordained goals, but about approaching the complexity of reality with the nuance it deserves. The ends do not always justify the means in real life. Rather than gamifying life, there should be a space left open for 'play' as an alternative to gaming. Play is not goal-oriented; it is experimental and creates new approaches and new ways of thinking. This is the kind of play we find in fiction as film, literature, and quality video games play with the concepts of gaming. A good model for a game that encourages genuine play can already be found, for example, in *Minecraft* (2009-15) and other sandbox games which allow players to express themselves and to have some agency in the game environments. *Minecraft* began as a building game in which players can use blocks to build defensive structures, but it has become a creative space where players of all ages can cooperate to build beautiful buildings and children can engage with each other in genuinely free play. Such spaces may, indeed, provide a venue for creative and collaborative approaches to the real world problems that gamification claims to address, such as political conflicts, global warming, or obesity, but mapping game mechanics onto the real world can only guide (or control) behaviour in a direction decided in advance by game designers and those who seek to profit from the human resource of engagement. For this reason the techno-utopianism of gamification must be critiqued and, where necessary, resisted.

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[1] I take McGonigal and her position as an exemplar of gamification supporters here as she is one of the most well-known and visible proponents of gamification but there are of course others who have promoted gamification as an answer to contemporary problems. These include Gabe Zichermann, author of *The Gamification Revolution: How Leaders Leverage Game Mechanics to Crush the Competition* (2013b) and Jesse Schell. Both Zimmermann and Schell have also recorded popular TED talks (Zimmerman 2011, Schell 2010).

[2] Although McGonigal and Zichermann see great potential in using gaming mechanisms to solve a variety of real world problems, there is little evidence so far to encourage such a view. The biggest meta study so far on the success of gamification has found that its positive outcomes are questionable as studies have been small and based on subjects self-reporting, often without a control group (Hamari, Koivisto and Sarsa 2014).