Playing for fun, training for war: Can popular claims about recreational video gaming and military simulations be reconciled?*

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1. Introduction

Despite the increased ubiquity of computer games in popular culture, 'violent' video games remain an ongoing source of social discomfort and political contestation. With each release of a new version of *Grand Theft Auto*, a game which notoriously encourages players to enjoy virtual acts of immoral violence and destruction, controversy re-emerges about whether it is appropriate to allow it to be played by teenagers. Whenever a young man carries out a multiple homicide at a school or university, the media immediately erupts with speculation as to whether it was his enjoyment of violent video and/or computer games that caused him to enact his violent fantasies in the real world (Kleinfield 2007).

However, despite many studies of the connection between in-game and real-world behaviour, the claim that acting out particular activities in digital games makes individuals more likely to

carry out the acts represented in the real world remains contested (King & Delfabbro 2010). As an Australian Attorney-General's Department Discussion Paper, (Commonwealth of Australia 2009) observed, "… research into the effect of violent computer games is polarised." While a number of studies have shown a connection between violence in digital games and individuals' attitudes and emotional responses towards real-world violence in the short-to-medium term (Anderson *et al*. 2008; Anderson *et al*. 2010; Funk 2005), the connection between activities in the games and acts in the real world has been much harder to establish.

Many authorities insist that players are quite capable of distinguishing between fantasy and reality and that consequently there is little reason to think that playing games affects the real-world behaviour or dispositions of those who play them (Ferguson 2011; Potter 2002). Perhaps unsurprisingly, given their economic interests, the Entertainment Software Association claims that "[t]he truth is, there is no scientific research that validates a link between computer and digital games and violence, despite lots of overheated rhetoric from the industry's detractors" (Entertainment Software Association 2013, para. 4).

In light of how long-running the controversy about the effects of recreational gaming is, and the extent to which participants divide readily into opposed and mutually hostile camps, we suspect that consensus about the effects of digital game play on players is unlikely to be reached any time soon. *Our goal in this paper is not, therefore, to try to establish whether or not digital games have ethically troubling effects on game players, but rather to draw attention to an important and under-acknowledged tension between claims made in this literature and those made on behalf of games in another context.*

At the same time as the games industry is emphasising the harmless nature of video games in the debate about recreational gaming, they are telling quite a different story to another audience – the military – to which they hope to sell their products for the purposes of simulation and training. Indeed, games manufacturers have been remarkably successful in doing this, contributing to what others have described as a "military-entertainment complex" (Lenoir 2000; Wark 1996; Der Derian 2009).[1] Digital games are currently used by military organisations across the world to teach the modern arts of war – from how to shoot a gun, to

[1] For an extended discussion of this phenomenon and its significance, see Huntemann & Payne (2010).

teamwork and leadership skills, military values, and cultural sensitivity. J.C. Herz and Michael Macedonia argue that military organisations are increasingly viewing digital games as "powerful tools for learning, socialization, and training" (Herz & Macedonia 2002). Thus it seems that the designers and users of military simulations must hold that it is possible to shape the real-world behaviour and dispositions of players through practice in simulations (Mayo, Singer & Kusumoto 2006). This contradiction between the military's enthusiasm for digital gaming and the games industry's position is especially striking when looking at games, such as *Full Spectrum Warrior*, which are simultaneously marketed for entertainment and training purposes (King 2007; Dyer-Witheford and de Peuter 2009).

In the first half of the paper we argue that there is a profound tension between the existing literatures concerning the relationship between digital games and violence, and the utility of games and simulations for military training.[2] Given the history of the debate about the connection between video games and violence and the controversial nature of the claims made in the media effects literature, discussed immediately below, it is necessary to emphasise that the argument of this paper is not intended as a direct contribution to the media effects literature. Nor, for that matter, do we intend to argue for any particular conclusion regarding the utility of games and simulations for military training. Rather, drawing on the disciplinary expertise of (three out of the four of) the authors in philosophy, our aim is to investigate whether the key claims in these two literatures are compatible with each other. Thus, in the second half of the paper we explore various ways in which these competing claims might be reconciled and suggest that all of them seem likely to fail. We conclude, therefore, that these positions do contradict one another and thus that either military organisations are wrong to think that digital games have the training power they assert they do, or some digital games do, in fact, have the power to influence the real-world behaviour and dispositions of players in morally significant ways.

[2] We are by no means the first authors to note the existence of this tension. In particular, notoriously, Grossman and DeGaetano (1999) concluded from the military's enthusiasm for digital gaming that recreational games were in fact "murder trainers", which taught children how to kill. However, whereas Grossman and DeGaetano argued that violent video games do cause violence, this is quite deliberately *not* our purpose here. Rather, we are concerned with the question of whether the apparent contradiction between the claims made about the utility of military simulations and games for training purposes and the claims made about the impact of recreational gaming on the dispositions of players can be reconciled.

2. Games, violence, and simulation

Like every new cultural form that finds its initial primary audience with young people, controversy concerning the causal relationship, if any, between digital games and the behaviour and dispositions of those who play them has existed for as long as the medium itself. A large scholarly literature addresses this popular anxiety. After briefly discussing the scientific controversy about video game violence, we will examine two different claims that are frequently made by the manufacturers and proponents of digital games and highlight what we believe is a significant tension between them.

2.1. The scientific controversy about 'video game violence'

Despite decades of study and thousands of published papers on the topic, opinion in the scientific literature remains divided over what, if any, impact playing video games has on the behaviour and dispositions of those playing them. This literature is too vast to survey in any detail in this context. Moreover — and precisely because the literature is so divided and its claims so contested — we have no interest in trying to determine here which, if any, of the claims made in this literature are true. Rather, in order to motivate the argument we *do* wish to make, about the tension between claims in related literatures, it will suffice to observe that a number of meta-analyses of the effects of violent digital games performed in psychology over the last decade have reached strikingly different conclusions.

Three recent meta-analyses found evidence for a significant causal connection between violent digital games and aggression (Anderson 2004; Anderson *et al*. 2004; Anderson *et al*. 2010). One of these studies suggested that "exposure to violent digital games is a causal risk factor for increased aggressive behavior, aggressive cognition, and aggressive affect and for decreased empathy and prosocial behaviour" (Anderson *et al*. 2010, p. 151). However, another series of four meta-analyses have disputed these claims and contended that the psychological literature provides no evidence for a significant connection between violent digital games and anti-social behaviour (Ferguson 2007a, Ferguson 2007b, Sherry 2007, Ferguson & Kilburn 2009). These researchers argue that publication biases, poor measures of aggression, lack of attention to the impact of depression, genetics, and personality on aggression, and various other methodological problems substantially distort the findings of

many digital games studies.[3] They suggest that once these factors have been taken into account, there is no discernible causal relationship between violent digital games and violent action or aggression.

The fact that even meta-analyses of research on the relation between playing digital games and player behaviour contradict each other, alongside the fact that, as we have already noted, the academic community researching the matter is so strongly polarised, suggests that it may be many years before further empirical research settles the question — if it ever does. For this reason, we believe that a form of 'immanent critique' in the context of the broader cultural controversy over videogame violence, focusing on tensions between the claims made by manufacturers and proponents of digital games, may have a useful role to play in advancing the debate on the topic.

2.2. Playing for fun

Video game developers and game studies scholars alike often respond to anxieties about a potential causal link between violent digital games and real-world violence by insisting on a sharp distinction between the virtual and the real.

In an influential Australian government review of research on computer games, which was widely publicised by the games industry (see, for instance, Interactive Digital Software Association 2001), the authors emphasised "Many players said that they perceive the aggressive content as fantastic and preposterous, with the result that they do not take it seriously: they do not perceive their own actions as harming others since they do not believe that the characters on screen are real or suffer pain" (Durkin & Aisbett 1999, xv). Similarly, in a qualitative study into game players' perspectives on gender stereotypes in digital games, researchers found that players typically view digital games as "harmless entertainment," as opposed to a medium which might impact players' behaviour and dispositions – whether positively or negatively (Brenick *et al.* 2007, p. 408). Many of the study participants argued that digital game players do not replicate acts they simulate in game play. Participants who played digital games regularly were more likely to think that digital games do not have any

[3] See also Kutner & Olson (2008).

influence on players. In a frequent refrain, one participant stated: "[v]ideo games aren't responsible for who people are or what they do" (Brenick *et al*. 2007, p. 416).

Commenting after their game *Manhunt 2* was banned from sale in the United Kingdom for its extreme violence, development studio Rockstar released a statement claiming that "The adult consumers who would play this game fully understand that it is fictional interactive entertainment and nothing more" (Cundy 2007) . Indeed, Gordon Calleja notes that digital games are perceived to be "the epitome of contemporary escapism" (2010, p. 336). He suggests that digital game worlds are presented as essentially separate from the real world due to their artificial status and the perception that there is a binary opposition between play and "ordinary, everyday life" (Calleja 2010, p. 335).

Dyer-Witheford and de Peuter (2009), on the other hand, critique the scholarly study of video games as contributing to such an understanding of virtual play as apolitical and non-real through the popular conception of virtual worlds as 'magic circles'. The idea of the magic circle draws from Huizinga's conceptualisation in *Homo Ludens* (1949), and was popularised through Salen and Zimmerman's claim that the space of play that the magic circle "circumscribes is enclosed and separate from the real world" (2004. p. 95). Dyer-Witheford and de Peuter argue that considering video game play as happening within a magical circle *segregates* the playing of video games from everyday life, setting apart video game play from "the turmoil of global markets, preemptive militarism, and street protest" (2009, p. xxxiv). Rather than considering the playing of games as an actual behaviour in itself, considering the virtual as distinct from the actual through the magic circle has allowed both videogame theorists and marketers to claim that the players' virtual actions are separate from their real actions and consequently insignificant.

Thus, ethicist Miguel Sicart posits that the digital games have a "relatively encapsulated existence" (2009, p. 198). On Sicart's model, the game player develops a "specific subjectivity" through the experience of playing a particular game (2009, p. 195). This "player-subject" has its own distinct ethical virtues, which are relative to a specific game's culture and the rules and goals of game play (Sicart 2009, p. 195). For instance, Sicart discusses a game play device in *Grand Theft Auto: Vice City* where the player can buy sex from a sex worker, receive a health bonus, and then kill the sex worker to retrieve their money. According to Sicart, performing such a virtual interaction is an "efficient" method of

game play which is "wrapped in a provoking simulation that the player understands is only meaningful within the game, because the meaning is related to the game system" (Sicart 2009, p. 197). While Sicart acknowledges that playing video games might have some, limited, effects on the player, he suggests (much as Rockstar's statement about *Manhunt 2*, cited above, insists) that mature video game players can distinguish between unethical representations in the game world and the non-virtual world and thus prevent a "transfer of values" (Sicart 2009, p. 196) that might impact on behaviour.

2.3. Training for war

In stark contrast to the defensive claims made by both video game scholars and games industry representatives about the effects of recreational gaming, many game developers and military commentators argue that digital games *can* be powerful educational tools for the purpose of training soldiers in the arts of war (Herz & Macedonia 2002; Mayo, Singer & Kusumoto 2006). In 2014, military organisations across the world spent an estimated $8.12 billion dollars on different forms of simulation, modelling, and virtual reality software (PR Newswire 2014). The aim of such games, according to the simulation designers, is to create "synthetic experiences so compelling that participants react as if they are real" (Mead 2013, p.1). Their goal, as David Ayer puts it, is to "create veterans who've never seen combat" (Institute of Creative Technologies 2004).

Indeed, Michael Macedonia, a former chief technology officer at the U.S. Program Executive Office for Simulation, Training and Instrumentation, contends that game-style simulations have become increasingly vital to U.S. military training programs. He notes that simulation training has "proven effective for enhancing motor control, as in driving a tank or firing a rifle… decision-making, as in calculating the resources needed for combat; and leadership, as in responding to an ambush" (Macedonia 2002, p. 33). Military research into the effectiveness of gaming technology as a form of training has suggested that gaming can significantly improve soldiers' abilities to absorb new information and to act in accordance with it (Buxbaum 2009; Mead 2013).

Moreover, military games have been designed to develop a surprising variety of skills.

In military games like *Steel Beasts* (2000), *Full Spectrum Warrior* (2004), *UrbanSim* (2006), and *Virtual Battlespace 2* (2007), soldiers learn to evaluate and employ different tactics in combat situations, develop their ability to operate in a unit, and build leadership skills (Institute of Creative Technologies 2012; Rayner 2012; Institute of Creative Technologies 2014). *UrbanSim*, in particular, attempts to explore common problems that military leaders may encounter in war-time. Players take on the role of an army commander in a warzone, who must make decisions about how to "maintain stability, fight insurgency, reconstruct civil infrastructure and prepare for transition" (Institute of Creative Technologies 2012, para. 2).

Other games developed for military training tackle the emotional impact of war and interpersonal communication skills. In *Tactical Iraqi* (2007), soldiers learn to apply information about Iraqi culture and local Arabic language dialects to engagements with simulated local Iraqi civilians (Alelo 2014). Another game, developed by WILL Interactive, aims to examine how soldiers can resolve potential conflicts between their role as a soldier and their own ethics. For instance, soldiers are required to weigh competing obligations to their military unit, their mission, and civilians (Mead 2013, p. 121). In *True Faith and Allegiance*, players learn what it means to act in accordance with "Army Values" from their teenage years, through recruitment and training, and into active service (Will Interactive 2014).

Finally, military simulations have also been adopted for the purpose of debriefing and treating soldiers when they have returned from war. *Virtual Iraq* (2004) is used as a therapeutic tool for soldiers who experience Post Traumatic Stress Disorder, who are guided through virtual environments and provided with the opportunity to confront their psychological triggers. A study found that use of the simulation resulted in "meaningful reductions in PTSD, anxiety, and depression symptoms" (Rizzo *et al*. 2010, p. 122).

2.4. A tension

Thus we can observe two competing tendencies – on the one hand, digital games are presented as a form of entertainment with few, if any, implications for the behaviour and dispositions of those who play them; while, on the other hand, digital games are presented as powerful learning devices which can change a person's behaviour and dispositions when utilised for military training.

This tension is especially striking given that some of the very same games have been marketed for entertainment and for training purposes. *America's Army* was designed to be an entertaining recruitment tool for civilians, but has also been used for training by the U.S. military (Mead 2013, p. 55). Popular commercial games, such as *Call of Duty*, have been used by military organisations to train soldiers (Brewster 2013). *Full Spectrum Warrior*, had both military training and entertainment versions developed simultaneously: as Dyer-Witheford and de Peuter observe, "the military version teaches soldiers how to make (or at least follow) smart decisions in the nightmare of urban combat; the civilian version… makes this an entertainment experience" (2009, p. 104).

3. Reconciling military training and recreational gaming?

If this apparent contradiction cannot be resolved we will have to choose between admitting that video games do shape the dispositions of those who play them or that the claims made for their utility in military training are wildly exaggerated. In this section we therefore survey a number of arguments that have been, or could be, made in support of the idea that this contradiction is only apparent and that, in fact, recreational gaming and military training through digital simulations are very different things. We will address these arguments in order of their plausibility, beginning with (what we feel to be) the weakest argument. The first two arguments emphasise differences between military uses of games and recreational uses, while the third postulates limits to what games of either sort can teach, which might help resolve the tension we have identified in the most pressing cases at least. Ultimately, we suggest, none of these approaches seem likely to be successful, and the contradiction persists.

3.1. Study versus play?

One way in which it might be argued that military games are capable of transforming the real world behaviour and dispositions of players, where recreational games are not, is by emphasising differences in the attitudes of those playing each sort of game. Thus, it might be argued, what and how much individuals learn from engagement with digital games is strongly influenced by their intentions in their engagements. Those who play military games and enter military simulations are doing so in order to train and to learn real-world skills, while players of recreational games primarily want to have fun. Consequently, the former may gain things from playing the games that the latter may not.

While clearly, in some circumstances, an explicit desire to learn can greatly facilitate learning, this argument fails to acknowledge important features of both military and recreational gaming. To begin with, recreational gaming always involves learning; it involves learning to play the game, both in the sense of the mechanics of game play, and also in solving the various challenges presented within the game. Thus, recreational gamers also approach gaming with an explicit desire to learn at least the skills necessary to overcome these challenges. Moreover, sometimes recreational players may deliberately play games in the hopes — or perhaps the fantasy — that they are learning skills that they will be able to use in the real world. For that matter, many military simulations and games used for training purposes are designed to be fun to play so that military personnel might play — and continue to benefit from playing — them outside of their formal training. Thus, the presence of an explicit desire to learn does not distinguish military use of games and/or simulations from recreational gaming.

Perhaps more importantly, the absence of an explicit desire to learn real-world skills or dispositions need not prevent such learning from taking place. Even in standard academic contexts, much of what takes place is "collateral learning", wherein students pick up skills that are not being taught explicitly and which they may not even be aware that they are learning or beginning to possess (Zyda 2005, p. 27). Such learning also takes place when games are played for fun. Indeed, the current enthusiasm for both 'gamification' and 'Games For Change' as a way of enabling self-transformation with regard to a wide range of behaviours is premised on this important observation (Kapp 2012).

3.2. Games versus simulations

A second way of reconciling the different claims regarding the effects of military uses of games and simulation and recreational gaming emphasises differences between military and recreational games rather than differences in those who play them. If one compares a flight simulator for a modern fighter aircraft or a military tank combat simulator with the PC versions thereof, for instance, one might conclude that military and recreational digital games are apples and oranges.

There are, in fact, two possible variations of this argumentative strategy. One emphasises the nature of the embodied experience of playing military versions of digital games or using

military simulations as compared to civilian games; the other draws attention to differences in the content of military versus recreational games and in particular how detailed and 'realistic' each is.

Unfortunately, however, neither of these distinctions maps reliably onto a divide between military and recreational games. As Patrick Crogan suggests, military simulations and videogames share an intimate material ancestry through "the cybernetic approach to modeling complex phenomena, realtime interactive control through virtualization, and the convergence of simulated and real events" (2011, p. 3).

It is true that some military simulations offer embodied experiences that seem much closer to the 'real' world experience of the system or scenario being simulated than recreational games and that therefore are, arguably, more likely to allow the skills learned in the simulation to transfer into the real world. Thus, for instance, the US Military's 'Common Driver Training' (CTS) system provides trainee drivers with an extremely realistic experience of operating an armoured personnel carrier or armoured fighting vehicle by means of a full mock-up of the controls systems and instrumentation of a Stryker, and a motion system which responds to and generates events in a virtual world in the same way that the real-world vehicle might (Jean 2008). Similarly, the US Army's 'Dismounted Training System' allows troops carrying plastic weapons modelled on real-world small arms to interact with virtual environments (Zamora 2013). The goal of trying to create such a vivid bodily experience is precisely to allow the skills learned in the simulation to transfer effectively to real-world contexts (Fong 2006; Bourge & McGonigle 2006).

Importantly, however, there is an increasing tendency for at least some recreational games to involve interfaces that require players to carry out real-world actions that more closely mimic those represented in the game. Car racing games use controllers modelled on steering wheels, which provide appropriate tactile feedback according to the virtual car's 'acceleration' and the conditions of the virtual road; many arcade games place the player in a cockpit or allow them to use a plastic gun to shoot virtual targets; the Wii Remote and Microsoft Kinnect game controllers allow players to interact with virtual worlds through bodily motions modelled on those appropriate to the situation in the virtual world (Khandaker 2011). The introduction of virtual reality headsets, such as the Oculus Rift, and sophisticated motion tracking systems into commercial gaming systems may make it possible for these systems

also to offer an immersive gaming experience of the sort currently only available in military (or commercial flight) simulators.[4]

It is also important to note that not all of the military's digital training tools provide players with the sort of embodied experience epitomised by the best flight or tank simulators. Many military games run on standard PC or console systems at which seated players move joysticks, type, or hit keys. In a complex reversal mapped by Der Derian (2009), Crogan (2011), Keogh (2013), and others, video games come to depict more accurate simulations of warfare as the tools of technological warfare (such as unmanned drones) come to more closely resemble video games. A military video game no longer has to teach a soldier how to use a firearm, but just how to use a video game controller.

Similar difficulties beset any claim about differences in the representations of the world in recreational and military games, either in terms of the sorts of details included or in terms of 'realism'.[5] Some recreational games pride themselves on their historical and geographical accuracy and on the power and sophistication of their physics engines and character AI-systems, while some military games or simulations present only the most formal and schematic representations of the real-world situations they purport to model. Indeed, in many circumstances stripping away extraneous details and representing only the features of the situation thought salient to determining the appropriate response in some scenario is itself often an important pedagogical strategy in any attempt to shape real-world behaviour and dispositions.

Even where these distinctions *can* be made between particular military and recreational games or simulations, further argument would be required to explain why either of them should lead to a significant difference in the capacity of games to generate changes in the behaviour and dispositions of players in the real world. That is, it would need to be explained why either a richly embodied experience or a particularly detailed or realistic representation

[4] For a striking illustration of this possibility, see: "Virtuix Omni - Grand Theft Auto V", https://www.youtube.com/watch?v=QZEnjwUqc4M (accessed 21st of April, 2015)

[5] For a sophisticated discussion for the ways in which the marketing of military-themed recreational games seeks to manage this tension, see Payne 2012.

of the real world within the game was necessary in order to produce changes in the real-world behaviour and dispositions of players.

We agree that this argument *can* be made when it comes to some skills. Training in a modern fully fledged flight simulator, for instance, will prepare trainee pilots to fly real aircraft in a way that training on a flight simulator running on a PC will not. Similarly, when it comes to preparing soldiers for combat, there may be some (real-world) skills that soldiers can only acquire by being trained in particularly immersive virtual environments. However, when it comes to the capacity to alter people's goals and motivations, these distinctions seem much less germane. In the real world, for instance, we may develop new dispositions as a result of experiences which are neither particularly vigorous nor traumatic (and therefore 'embodied') or particularly vivid or unusual, such as conversations. It is difficult to see why the sorts of experiences provided by recreational games should be incapable of achieving similar effects. Indeed, it is through the *banalisation* of warfare that Dyer-Witheford and de Peuter see military games as having the strongest effect on their players. As part of a broader framework, Dyer-Witheford and de Peuter understand the banalisation of warfare as allowing military actions to become part of the culture of everyday life, and "the long-standing interaction of video game culture and the military apparatus is a component in this process of banalization of war" (2009, p. 100). As video games make ever more heightened claims to the realism of the wars they depict, real wars come to look ever more like video games through radar screens, infra-red, and the "Nintendo War" footage of CNN (Ebo 1995; Stahl 2010). As Der Derian notes: "with the virtualization of violence comes the disappearance of war as we have known it" (2009, p. 121).

3.3. Skills, but not virtues or vices?

As we noted above, playing digital games clearly does teach some 'real world' skills: it teaches players how to play the game – which after all does involve manipulation of the game controls in the real world. Where games have been designed so that these skills may also be transferred or adopted to real-world activities which involve similar sorts of manipulations, they will also teach real-world skills in the more substantial sense. Thus, while it may be debatable whether or not particular games (*Modern Warfare 2*, for instance) teach particular skills (for instance, "how to kill") (Parkin 2012), the claim that games cannot teach skills relevant to the real world is extremely implausible, especially in the light of the military's use

of simulators and digital games for training as well as the increased digitalisation of 'real' combat. However, what is more controversial is whether games shape their players' *moral* dispositions; that is, whether they alter their character or the ends that they choose to pursue. Noted psychologist Christopher Ferguson argues that while digital games may transmit "raw data or information," they do not influence the "internal goals, motivation," "moral beliefs" or "personality traits such as aggressiveness" of game players (Ferguson 2010, p. 76).

Three initial observations, however, suggest that if the claim that gaming can influence players' character is debatable, the plausible room for debate is much less than advocates for the distinction between skills and moral character traits, such as Ferguson, suggest.

First, as we outlined above, a number of authorities explicitly claim that military use of games *can* alter the character of those who play them. Insisting that games can teach skills but not virtues (or vices) would reconcile the tension between claims made about the training benefits of military digital games and the effects of recreational gaming only if the advocates of military uses of digital games were willing to give up this claim.

Second, it would be remarkable if digital games were perhaps the only medium incapable of shaping the character and ends of those who use it. It would be inconceivable to make the same claim about books, for instance, which clearly have the capacity to alter the character of those who read them and have done so in millions, if not billions, of cases. It would not make sense to distribute Bibles, or copies of the Koran, or denunciations of either, if you did not think that books had the power to shape people's values. Similarly, films clearly have the power to reach people emotionally and change their minds about issues, thus reshaping their ends. Advocates of video gaming often insist that games constitute a new artistic medium: it would be very strange indeed if they were almost uniquely incapable of transforming people's character (Bogost 2006).

Third, public unease about racism, sexism and religious vilification in games suggests that, at least in relation to the way we are inclined to treat people on the basis of their race, sex, or

religion, it is widely acknowledged that games do have the capacity to reshape our behaviour and attitudes towards other people — which is to say, our character.[6]

The argument that games cannot shape character is therefore contrary both to claims made about the benefits of (at least some) military games and also to everyday ideas about the power of this medium.

There is, moreover, a deeper problem with the attempt to distinguish between the power of games to reshape skills and to reshape character. As Aristotle recognised, skills and character are closely related. It is for this reason that we have deliberately used the phrase 'behaviour and dispositions' in this essay to refer to what it is that recreational and/or military games might reshape in those who play them. Dispositions are tendencies to behave in a certain way and skills and character traits are both matters of dispositions. Skills consist in the disposition to make appropriate choices in the context of an activity dedicated towards some particular goal. One of Aristotle's core insights was that virtues also consist in dispositions to make appropriate choices in pursuit of some moral goal.

According to Aristotle, virtues may be thought of, at least in part, as skills for living the "good life". Aristotle explains that inculcating virtues involves developing skills in identifying worthwhile ends, and in deliberating about the appropriate means to use to achieve or realise such ends in concrete situations. For example, developing the virtue of benevolence involves both reaching an understanding of what is genuinely good for a certain person (going beyond what one might unreflectively assume is in their best interests), and then determining suitable means of promoting this person's good. Indeed, Aristotle argued that virtues can be acquired *only* through training in the development of such skills: "it is activities exercised on particular objects that make the corresponding character. This is plain from the case of people training for any contest or action." (Aristotle 1980, III, 5, 1114a6-8). Aristotle also held that this internal link between skills and moral character applies to the development of vices.[7]4

[6] Morgan Luck (2009) does an excellent job of exploring the implications of this fact for the ethics of gaming more generally in his paper "The gamer's dilemma".

[7] See also Annas (2011), who explains well how virtues should be understood as skills "that exhibit the practical intelligence of the skilled craftsperson or athlete" (p.169). A lively discussion has subsequently developed in

Given, the close relation and interaction between skills and virtues, it should be no surprise that acquiring skills tends to alter our character through a number of mechanisms. To begin with, it is difficult to learn a skill if one does not value the activity which it governs. For this reason, the exercise of the skill tends to become a goal of skilful persons — as does the goal towards which the skill is directed. Further, learning a skill requires adopting certain intermediate ends, which those who have established expertise in the skill have identified as necessary to the achievement of the excellence towards which it aims. Thus, for instance, cardiac surgeons must open the ribcage before they begin surgery on the heart, so those who are learning heart surgery must adopt cutting the sternum as one of their goals. These intermediate goals tend to influence our ultimate goals; it is difficult to value and the intermediate goal unless one also values the goal towards which it is a means. Similarly, the exercise of skills, especially the exercise of skills at the highest, also involves something akin to perception — a 'way of seeing the world' — which foregrounds some features of the world, which are relevant for the purposes of achieving the goal towards which the skill aims, and neglects others. Thus, conversations between very skilled persons may refer to details and features of their activity and circumstances which are effectively invisible to persons lacking the same skill. However, to come to see the world in a certain way is also to make it more likely that one will reach certain conclusions about it. Finally, both the developing of skills and their exercise involves self-discipline of the sort that Aristotle argued was closely associated with the virtues (Aristotle 1980, II, 2, 1104b34; VII, 7, 1150a35; IX, 8, 1168b34). According to Aristotle, the capacity for "continence" or "self-control" is necessary in order to develop the virtues, which may otherwise be vitiated by the human tendency towards impetuosity and/or weakness of will. In developing self-control, then, the learning and exercise of skills also contributes to the capacity of agents to exercise the virtues.

We therefore think that it is likely that in training skills digital games are also shaping moral dispositions. However, importantly, this is a stronger claim than is necessary for our current purposes. In order to reconcile the tension, with which we are concerned here, it would need to be the case that games *can* impart skills but *cannot* shape moral dispositions. A proper

the virtue ethics literature about how acquiring virtues, in practice, involves developing skills of various sorts. See, eg., Stichter (2011).

understanding of the close relation between skills and virtues suggests that this is exceedingly unlikely.

4. Conclusion

We have argued that there is a profound tension in the claims made about the power of digital games by their manufacturers and supporters in two different literatures. While in the controversy about videogame violence recreational gaming is defended by advocates as "harmless fun" that does not shape the behaviour and dispositions of those who enjoy it, military games and simulations are sold and promoted on the basis of their capacity to train skills and transform the character of warfighters. Obviously, no discussion, no matter how extended, can rule out the possibility that some new argument — or particular sophisticated version of those we have surveyed here — will succeed in reconciling the tension we have identified. Nevertheless, we believe that our treatment has at least established that the burden of proof is now firmly located with those who wish to reconcile these positions.

In the meantime, therefore, we must conclude that either military organisations are mistaken about the effectiveness of digital games as a training tool for warfighters (as are also, by extension, those invested in broader gamification and Games For Change movements), or recreational digital games do have the power to shape the behaviour and dispositions — including the moral dispositions — of players. Our moral dispositions determine how likely — and in what circumstances — we are to behave in various morally significant ways. Conceding that digital games have the potential to shape the character of game players — whether positively, or negatively — would, therefore, significantly undermine the games industry's advertising of digital game play as 'just a game' (Payne 2012, 324) without implications for the real-world behaviour of those who engage in it.[8]

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