Video Games and Virtual Reality

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According to popular legend, when Catherine the Great, empress of Russia, visited Crimea in 1787, her train of functionaries and foreign ambassadors was greeted by cheerful, neatly dressed peasants in prosperous-looking villages. The entire scene was a facade masterminded by the statesman Grigory Potemkin, and the performance would be repeated each day, the portable village having been packed up and transported downriver overnight.

The term *Potemkin village* has come to connote stage-managed reality, fleetingly orchestrated to produce a pleasing impression. A Potemkin village is real in the sense that it has a physical existence, but it is nevertheless more a theatrical set than an authentic settlement. Where bald reality proves disappointing, a faked environment may be more effective.

Reality has come a long way since 1787. First came the camera, which notoriously never lies but can be made to tell some very selective truths. Then came computers, thanks to which the most authentic photograph can be manipulatively Photoshopped. When you hear that computers also let you experience virtual reality, be prepared to ask precisely what "reality" has received a "virtual" counterpart.

Humans have long envisaged other realms of existence, from heavens to hells, but modern generations not only envisage but play games in other realms. Much of how people live not only is mediated by computers, as so much communication is now, but involves whole worlds crafted in software to pique their interest.

This chapter begins by attempting to sort out what the language of the "virtual" is supposed to mean. If you dive into the wider literature on virtual reality, you will find terms like *virtuality continuum*, *transreality gaming*, and *mediated reality* used to encompass the various ways in which technology can blend "real" and "virtual" experiences together. Rather than grapple with all these technological possibilities, this chapter takes a more historically inclined look at how things ended up here, with particular emphasis on virtual reality headsets and online "virtual worlds." It then discusses the role of self and identity, and how fictions fit into all this, given that video games, especially, feature an awful lot of them.

There follow discussions of two questions about the status of video games in the lives and culture of the people who might play them. First, there is the aesthetic nature of video games, as embodied in the debate on whether games can be art. Second, there is the ethical nature of games and the people playing them. The scene for moral philosophy that looks

seriously at games was largely set by the long-running dispute about whether playing violent games could produce brutish, violent people. This chapter does not try to answer a question with which psychological science would like to deal, but uses this background to show how philosophical questions about moral thought and action have emerged from it.

In closing there are some tentative remarks about future prospects and potentially fruitful lines of inquiry, with particular emphasis on augmented reality: technologies that blend computer-generated elements into one's perceptions of physical reality, providing, perhaps, Potemkin's last laugh.

VIRTUALLY HISTORICAL

Before anyone talked about virtual worlds, computers were using virtual memory. If a system's memory chips ran out of storage space, and a program requested more memory, the operating system could instead allocate space in a "swap file" on the hard drive, the hardware ordinarily used for permanent storage of files saved by the user. The user might notice that the program was running slowly, but the program itself would receive the storage space it requested as though the computer's memory chips had sufficient capacity.

Similarly, much software runs on virtual machines, in which one computer uses a portion of its resources to emulate another. For example, a modern Web server might have its resources divided into many portions, each rented out separately and behaving, from the renter's point of view, as though it were a discrete machine in its own right.

THE VR HEADSET

It is against this technical background that people started to talk about virtual reality (VR). A virtual resource was (from the appropriate point of view) functionally equivalent to the resource it was intended to emulate. A virtual reality would be functionally equivalent to a reality. This is the restrictive—not the only—sense of "virtual reality": the VR that involves special hardware to bring one into its world.

Functional equivalence was not the same as being indistinguishable from reality. Early VR systems were constrained by the limited processing power of the day, and consequently by its primitive capability to render three-dimensional spaces. What distinguished VR from other applications of 3-D rendering was bodily immersion through its hardware.

A VR headset had three major characteristics. First, it rendered two slightly different images, one for each eye, in order to enable depth perception. (Screens were placed directly in front of the eyes; stereoscopic projection, used by 3-D display screens, was uncommon until the 2010s.) Second, in doing so it caused the virtual reality to take up one's entire field of vision. Third, by tracking the motion of the head it allowed the images to change accordingly: move your head downward to see a virtual floor, upward to glimpse a virtual ceiling. (The Virtual Boy games machine, produced in 1995, did not have all three features, but it failed commercially.) This virtual reality was functionally equivalent to physical reality not by looking convincingly like it but by emulating the embodied experience of being physically present somewhere and looking around.

The interactivity of these virtual realities was variable. There were experiments with special gloves that gave one a virtual arm within the virtual space; other systems were limited

Virtual reality (VR). *Physical reality and a spectator's view of virtual reality. The promise of VR, however, lies in what the player sees in the first person.* **BLOOMBERG/GETTY IMAGES.**

to more basic control hardware, such as the simple joystick. Physics simulation was subject to the same technical limitations as graphics. Perhaps for these reasons, VR became established as a niche curiosity rather than gaining the mainstream popularity many had expected, and it was not until the fund-raising success of the Oculus Rift VR helmet in 2012 that it would show conspicuous potential for any popular renaissance.

VIRTUAL WORLDS

The language of virtual spaces had not gone unused in the meantime, however. With the increasing reach of the Internet had come the rise of the massively multiplayer online game (MMO or MMOG), or, as its scholars have tended to call it, the virtual world.

The earliest candidates to be identified as virtual worlds had (and still have) no graphics whatsoever. Multi-user dungeons/domains (MUDs) are an offshoot of the text adventure, a game involving a text-only interface, which in turn descends from the "gamebook" or "Choose Your Own Adventure (CYOA)" genre of children's books. A CYOA book was divided into sequentially numbered sections: the reader would begin at 1, but instead of proceeding linearly, the story would present a choice. A section might typically end with something like this: "If you want to head North into the dark forest, go to 38. If you would rather return to the village, go to 81."

Computers offered a refinement of this experience: instead of selecting actions from a set menu, the player types commands in basic English, as though addressing a simpleton, and the text adventure parses the command and generates a response. (Text adventures would develop into interactive fiction, with a greater shift of emphasis from overcoming challenges to uncovering stories through nonlinear interactions.) Here is the famous opening of *Zork* (1980), along with some commands from a player (indicated by the > sign) and the game's responses:

West of house
You are standing in an open field west of a white house, with a boarded front door.
There is a small mailbox here.

> Open mailbox
Opening the small mailbox reveals a leaflet.

> Get leaflet
Taken.

> Eat leaflet
I don't think that the leaflet would agree with you.

Combine a text adventure with a chat room, allow the state of things in a world to persist while players are logged off, and you have, roughly, a MUD in which multiple players can occupy the same "rooms," converse with one another, and have their actions change the state of the shared world. Some MUDs are recognizably role-playing games (RPGs), with players' characters growing stronger through adventures in a dangerous realm.

Later developments would give rise to the graphical MUD, and thereafter to the modern MMO. *Ultima Online* (1997), an offshoot of the *Ultima* series of computer RPGs, illustrates both similarities to its single-player cousins (a player inhabits a sometimes dangerous fantasy world, seen from a bird's-eye view) and differences (with numerous players, not everyone can be the hero of the land). Among subsequent MMOs that moved to 3-D graphics, *EverQuest* (1999) and *World of Warcraft* (2004) are among the best-known MMORPGs (a portmanteau term: massively multiplayer online role-playing games), while *Second Life* (2003) would strip the game aspect back out in favor of a social space. It was not, however, without its potential challenges, because it retained an internal economy.

As the abstract for Edward Castronova's "Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier" puts it:

In March 1999, a small number of Californians discovered a new world called Norrath, populated by an exotic but industrious people.… The nominal hourly wage is about USD 3.42 per hour, and the labors of the people produce a GNP per capita somewhere between that of Russia and Bulgaria. A unit of Norrath's currency is traded on exchange markets at USD 0.0107, higher than the Yen and the Lira. (2001)

Norrath is the world of *EverQuest*, and though its design invites players to participate in the shared fictions of a fantasy world of adventure, it also supports situations in which rational economic action emerges. What got scholars' attention was largely not the fiction but the real human social behavior. An early MMO economy, in *Habitat* (1987), nearly collapsed when players learned how to exploit the way its pawn shops worked (King and Borland 2003).

As MMOs grew in popularity, it became normal to read of "gold farmers" working to accrue in-game currency, and being paid with ordinary money to do it; players who were wealthy offline could thus buy in-game wealth without having to work for it themselves. New legal questions emerged: if one player paid another for a sword that existed only inside an online game, and never received it, should a jurisdiction in the real world take action, and how should damages be calculated?

Scholarly excitement about MMOs has waned: activity on *Terra Nova*, once a lively discussion blog for virtual world researchers, dwindled until Castronova wrote its epitaph (2014). According to his closing analysis, the features of a virtual world were tending to split away: online socializing and community building, for example, were happening on dedicated social networking sites. "Perhaps virtual world designers were the latest incarnation of the utopian community builders of the 19th and earlier centuries," he continued, and had run into the same problems with the very human nature that had fascinated him as an economist.

In fact, some of his colleagues disagreed with this pessimism, and *Terra Nova* was resurrected soon afterward. The *Journal of Virtual Worlds Research* has been publishing since 2008.

OTHER USES OF "VIRTUAL"

Another virtual phenomenon that has seen waxing and waning popularity is the virtual pet (sometimes a virtual girlfriend, boyfriend, or baby), which reached its apogee in the 1990s with the Tamagotchi, an egg-shaped device, resembling a keychain toy, that required certain actions (pressing its buttons at certain times) to keep the creature on its screen. *Petz* (Dogz, Catz, etc.) (1995) are cartoons, and the Norns of the *Creatures* series are based on no particular species. The major characteristic of a virtual pet is usually the need to interact with it; some will show symptoms of "neglect" if their "needs" are not met.

Other usages of the word *virtual* are also seen. In many cases, such as that of the *Virtual Chess* series, virtual seems to operate as nothing more than a convenient way of saying "now implemented on a computer (probably using 3-D graphics)." Perhaps the strangest usage of "virtual" appears when bitcoin is called a virtual currency. Bitcoin, and other currencies like it that are traded online but not backed by any state, is a medium of exchange that exists in purely electronic form—not so very different from the money in your bank account. (A later section of this chapter examines questions about "virtual murder"—that is, what you do when you kill a character in a video game, a virtual act performed by a real player.)

VIRTUALLY MEANINGFUL?

The philosopher John Searle has written at length about social facts, which get to be factual by means of people's shared attitudes toward them: such a thing as money, for example, exists because lots of people participate in a money economy. Because they do this, money has a real and objective existence; it exists and has value purely by convention, but (in stable economies) by a very deeply entrenched convention.

Such phenomena create two problems when one tries to pin down what it means to be virtually real. First, there is the need to clarify what kind of reality is involved. Second, is there a substantive sense in which, for example, *World of Warcraft* gold is virtual money,

whereas the money in your pocket or bank account is real money? These questions underlie most of what is discussed in this chapter.

The simulation of physical facts—how things in the physical world look and move—seems never to have been crucial in virtual reality. This is surprising in light of the dreams of advanced VR that were put before the public in cinemas: *The Matrix* (1999), with its humans wired up to machines that sustain them in a shared illusion while their real bodies lie dormant, toyed with age-old philosophical questions about how you can know when your senses are deceiving you. *Avalon* (2001) combines such imagined VR with the setting of a multiplayer video game—one so realistic that only the special effects, mainly seen when characters die, mark it out as unreal. When the protagonist succeeds in reaching "Class Real," she finds herself in what seems to be the VR salon where she wired herself up to play the game: neither she nor the audience can tell whether this is part of the game or not until she has found and killed her target.

Scenarios like the ones in movies—fictional virtual reality—are obviously far removed from the experience of sitting in a chair while wearing a VR helmet. But VR hardware is nonetheless about being able to turn one's head and have a world move before one's eyes as though it were physically there. VR is characterized by its potential for embodied experiences.

VIRTUAL REALITY AND THE EMBODIED SELF

That human beings are embodied is a discovery that philosophers treat with perhaps surprising seriousness. *The Matrix* and *Avalon*, however, indicate why: there is a long philosophical tradition that holds that knowing your mind is very different from knowing your body and its senses, and therefore that mind and body are rather distinct things. (Maybe your *real* body is wired up to a machine somewhere.) Add to this Western philosophical tradition a Judeo-Christian religious tradition that taught of immortal souls, and a tendency naturally emerged to identify the self, the "I," with the mind alone. Philosophers who emphasize embodied cognition, the involvement of the body in thinking and having conscious experiences of being in a world, are reacting to those traditions.

As Martin Heidegger (1889–1976) pointed out, it is one thing to examine a hammer detachedly, and quite another to be hammering away with it: when you are engrossed in the business of striking things, the hammer is practically an extension of your arm, and the hammer and arm are what you find yourself using to get things done. That you can think about moving your arm and it actually happens is the result of some vastly intricate biology, but you are not thinking scientifically about that; you are hammering away, getting things done. Training in many skilled pursuits (for example, painting, playing a musical instrument, sports, dancing, or indeed playing a video game) involves reaching the point at which you no longer need to think about the details of what your body is doing, and you simply go ahead and do it. In the parlance of video games, this might be called immersion.

A VR headset takes advantage of the fact that you already find yourself in a world in which you can look around by moving your head. Controlling a game with a joypad, or a keyboard and mouse, can in time become second nature, but turning one's head to look around is first nature.

FORCE FEEDBACK, GAME CONTROLLERS, AND THE BODY

It seems to be significant that VR hardware involves putting images directly before the eyes. The rumble effect offered by some game controller hardware, which makes the controller

jump around in one's hands in response to collisions or other events in the game, is usually categorized as "force feedback" or "haptic feedback," and not particularly associated with virtual reality. Possibly this reflects the association of VR headsets with first-person camera viewpoints in 3-D games; force feedback, on the other hand, can be used with any kind of game, even a 2-D puzzle game of falling blocks, as in some variants of *Tetris*.

Perhaps the most striking example of bodily involvement is again seen in cinema: a scene in the James Bond film *Never Say Never Again* (1983) features *Domination*, an electronic game (in two senses) of world conquest. As the villain, Largo, explains to Bond, "Unlike armchair generals, we will share the pain of our soldiers, in the form of electric shocks," and "As the stakes increase, so does the level of pain." (In the real world, electric shock feedback for games has never become widely popular.) The bodily engrossment could hardly be more direct, but it is not like Heidegger's hammer (nor, presumably, like actual world domination). A real and milder variation on the theme exists in the Bio Tetris mode of *Tetris 64* (1998), which uses a sensor clipped to the earlobe to monitor the player's heartbeat. As in any version of *Tetris*, blocks fall and must be cleared away in order not to lose; in Bio Tetris, the faster one's heart, the faster blocks fall (and the nearer failure comes, the harder it is to remain calm). This mechanic too has little to do with VR. (Game "mechanics" are the systematic methods games offer for interacting with them.)

Closer to Heidegger's hammer are specialist game controllers designed in imitation of other implements. Light guns for some shooting games, steering wheels for racing games, and dedicated joysticks for flight simulators are traditional examples; more exotic ones include a fishing reel. Musical rhythm games have used instrument-based controllers and dance mats. Arcade games, installed in dedicated cabinets, could go further still: *Soul Surfer* (2002) is controlled by standing on a mechanically moving surfboard. More generically useful is the style of "motion control" popularized by Nintendo's Wii (2006), based around tracking players' spatial movements: a downward stroke of the forearm, for example, might make an onscreen character chop something.

These cases are plausibly closer to virtual reality. (In fact, some may be too close to reality to be virtual: the intended use of a dance mat is that it really will be danced on.) Motion tracking of a player's arm is what VR gloves did in an earlier era. What keeps motion control from being consistently associated with VR is that the familiar implementations use a television screen for visual feedback, and that feedback does not necessarily employ a first-person perspective: thus "I" may perform a physical action and thereby cause "my character," represented visually from a third-person perspective, to perform a roughly corresponding action in a game.

VIRTUALLY ME?

It is time to look at virtual worlds again. The previous section suggested that virtual reality, made familiar through the VR headset, is all about the embodied self: about being able to use one's physical body as in the real world (in fact, by using it in the real, physical world), and thereby becoming engrossed in computer-generated spaces as in real ones. Whatever is virtual about virtual worlds, for many of them it cannot be that.

In a text-based multi-user dungeon, somewhat as in tabletop role-playing games played with dice and paper, or even children's games of make-believe, the world is apprehended through the words used to describe it. Whether definite facts (or rather fictions) about a

player's body are even important depends on the MUD's design. Graphical massively multiplayer online games made it necessary for a player to look like something when perceived by other players. They require the visible body of an alter ego: an "avatar." What has usually drawn attention is that an avatar's body need *not* have much to do with the player's physical body; it used to be a popular joke that MMORPG stands for "many men online role-playing girls."

WORDS, BODIES, SELVES—AND VIOLATION

In a text-based MUD, one's observable body amounts to a description of a body, and is as constant as that description. Julian Dibbell, in "A Rape in Cyberspace" (1993), one of the best-known examinations of the potential and the perils of online communities, explains to readers that within the MUD named *LambdaMOO* he is sometimes a dolphin. The perpetrator of the rape in question was a clown named Mr. Bungle, and the victims included a Haitian trickster spirit called *legba*. Like everything in *LambdaMOO*, the rape was made manifest through words; but Mr. Bungle used a "voodoo doll," an item in the MUD that could make other participants perform actions that they had not chosen. Mr. Bungle did not talk about imagining other people performing sexual acts; he used the MUD's programming to force a truth on them that they performed sexual acts within the shared context of *LambdaMOO*.

A truth, but not a truth about bodies in the physical world; nor yet about offline names and descriptions, among which "Haitian trickster spirit" is so seldom found. Whatever selves had been violated must therefore be identified wholly with the victims' minds and their participation within the social context of *LambdaMOO*: a far cry from a VR helmet's emphasis on embodied experiences. As for the rapist's own self, reportedly Mr. Bungle was an account shared among a group of people (Lessig 2006, 98).

As in an online forum or chat room, pseudonymity removes constraints, for good or ill, by limiting the threat of censure to the online environment in question. Reputation exists, attached to names and accounts, and the risk of ostracism can curb the antisocial urges of those who badly enough want to remain part of an online community. Yet for those amused by making trouble, such a reputation plainly does not feel like, as one of William Shakespeare's characters called it, "the immortal part of myself"—though Mr. Bungle's place in history has long outlasted the *LambdaMOO* Mr. Bungle account, which was deleted by an administrator.

MUDs are technologically much as they always were, but it is sociologically impossible to re-create this early era of the Internet in which virtual rape emerged as a new and startling problem. A later MMO would gain some notoriety for letting ravishment fantasists opt into the possibility that other players would rape their characters (Pitts 2007): a sign, perhaps, of a less innocent online age.

Technology marched on, nonetheless: the graphical MMO came to be, and with it players' visible avatars. Whereas descriptive text in a MUD lets participants be what they can imagine and verbalize, the constraints on avatars are greater: the kind of body one can opt to have depends on what an MMO's artists have created and made available. A game will not support occasionally being a dolphin unless suitable art assets exist for it. In this respect, simply having a visible body implies having limited control over it. Among the stranger illustrations of this principle was a bug in *Age of Conan* (2008) that caused avatars to undergo unexpected breast reduction.

In virtual worlds of this sort, the body exists to be looked at, recognized, and perhaps admired, rather than as a vehicle for embodied experiences. (Many games, both multiplayer

and single-player, use a third-person camera in which the player's character is visible on the screen.) It is no coincidence that the word *avatar* is also used to refer to an image appearing next to one's posts on online discussion boards.

TRUE SELVES, VIRTUAL REALITIES?

It seems, then, that in one context the word *virtual* is used to connote a kind of embodied experience; yet in another context it connotes a kind of computer-mediated experience in which, although one can have some kind of body and care about what happens to it, that body functions as part of how one projects oneself into a shared space. One kind of virtual reality is about sensory immersion, the other about social immersion unlimited by one's physical body. One emphasizes what it feels like to look out through a pair of eyes, the other what it means to be looked at by others. For some reason, both are called virtual. Perhaps part of the reason is that both looking and being looked at are intimately familiar experiences. Jean-Paul Sartre (1905–1980) used the example of peering through a keyhole, engrossed in an act of voyeurism. One's awareness is taken up by what one is watching—until a sound, such as a nearby footstep, causes it to shift to awareness of oneself, the looker, as the possible object of another person's disapproving gaze.

Perhaps what loosely links these senses of virtual is the self: a self that looks around, or a self to be looked at, or a self that plays with a virtual pet or engages in virtual murder. Yet the nature of the virtual seems to be such that it makes personal identity tricky to grasp. To an extent this is already a truism about some of the things people do with computers, especially online. As the caption to a 1993 *New Yorker* cartoon, in which a dog sitting at a computer is talking to another dog sitting on the floor, put it, "On the Internet, nobody knows you're a dog."

VIRTUAL AND FICTIONAL?

Virtual worlds complicate matters further: imagine that, for example, you have (as many do) not one but two characters in some MMO game, and you play as one or the other as the fancy takes you. Obviously these characters are different from each other. Therefore it would be paradoxical to say that your characters simply are you: that would imply that they were identical to each other, because if A = B and B = C then A = C. On the face of it, this is no stranger or harder to deal with than the idea that Hamlet is not the same as any actor who plays him. There can be a fiction in which "Hamlet is fighting Laertes" is true, and a reality in which "This actor is mock-fighting that actor" is also true, and the first truth depends on the second one. Exactly how that dependency works might be a thorny problem for philosophical theory, but theatrical audiences certainly manage a practical grasp of it.

Suppose, however, that one of your MMO characters owns a valuable sword, and that some other player's character comes along and manages to make off with it. Within the fiction of the game, one character has stolen another's sword; but is it not also true that one player has purloined another's item? You, after all, are unwillingly denied the further use of that sword. Does this theft then have two distinct victims, your character and you?

Such quandaries bedevil any attempt to achieve a neat division into real and fictional; perhaps it is for this reason that people have wanted to talk about virtual worlds and deeds. Fiction is, in itself, a source of questions for philosophers of art: there is a paradox of emotional response to fiction that asks how it is that anybody can be moved by a novel or a film given that the events of its story are not real and, indeed, are exactly the same every time the tale is told. The problem of the stolen sword seems different from this one: it may be

that you have an emotional link to your character, and it may be that you can have an emotional link to a character in a novel, but if you object to the theft it is doubtful that this is because you are empathizing with your character as though your character were some other person. It is, after all, *your* character. The player of a game is subject to choices and consequences in precisely the way readers of a novel are not. You are obviously not confused if your reaction to your character's misfortune is "I've been robbed!"

FICTION AND IMAGINATION

The language of virtual realities ostensibly implies that one is dealing not with facts versus fictions but with different kinds of realities. However, it would be tricky to do away altogether with concepts of fiction when one is dealing with video games and virtual realities. For example, Geralt of Rivia was a character in fantastic literature long before he became the protagonist of the *Witcher* RPG series. If one wants to say (as presumably one does) that the Geralt of fantasy literature is the same character as the Geralt of the *Witcher* video games, then given that the former is a fictional character the latter must be too. Not unexpectedly, one arrives at the conclusion that video games can feature fictional characters in fictional settings. The same conclusion presumably applies to virtual worlds with multiple participants: more than one MMORPG has been set in the *Star Wars* universe.

Some games, especially those from an era when hardware allowed for much less graphical realism than today's, positively invite players to view them as limited windows onto richer realms of the imagination. Roguelikes, an RPG subgenre that in their most traditional forms display scenes as grids of textual characters, offer an abstraction of space in which an ant takes up as much room as a dragon. You are of course not expected to take this mechanical feature as though it were literally part of the game's fiction of ants and dragons, any more than you are expected to respond to games of chess by imagining bishops who always walk diagonally. The adventures of the player (you), conventionally designated as @, in encountering a dragon, perhaps *D*, or a giant ant, *a*, are a stimulus for your imagination, which knows from other sources about fighting dragons. Meanwhile, hardware with few available colors might display a game's characters, items, and so on using images with three or four colors apiece; but of course it was always understood that the game's world was not literally supposed to have so few colors in it, and sometimes illustrations in the manual would show you how characters and scenes were "really" envisaged by a game's creators.

Every medium of fiction leaves something to the imagination, because no work of fiction can exhaustively stipulate everything. (In fact, much is often taken for granted: few authors bother, when introducing a new character in a novel, to stipulate that this person has two legs, one stomach, and so on. Research continues on the concept of truth in fiction and how audiences can know these truths when authors have not pinned them down explicitly.) Video games are by no means alone in this, and the ways in which their graphics can leave the imagination with further work to do is no stranger than, say, the paintings of Pablo Picasso.

PLAYING BY THE RULES

However, video games, unlike works meant entirely to be read or looked at, are subject to the requirement that they should be playable as games. In *Super Mario Bros.* (1985), large coins are routinely found floating in midair until Mario collects them. This is a brute fact about how the game works, with no rationale but players' enjoyment. Speculating about

how gravity might work differently in the game's fictional Mushroom Kingdom is a futile (albeit amusing) enterprise. One probably should not see huge, weightless coins as part of the game's fiction but as part of its mechanics, like the textual grid of a Roguelike, or indeed like the castling rule in chess.

If one wanted to explain features like Mario's hovering money in terms of fiction—alongside setting, characters, and so on—then a great many games would look like rather surreal fictions. Similar lines of thought may apply when features of games are described in the language of the virtual. Coins in *Super Mario Bros.* are not used in commerce, though collecting a hundred will give Mario an extra life (that is, an extra attempt to retry a section that defeats the player). Their role as tokens that are replaced with something else is as close as they come to functioning as any kind of money, real, virtual, or fictional. It is difficult to think of them as virtual anything. As a part of the game, they have a role within its mechanics of play, and they happen to look like coins because money is something people easily recognize and want to collect. (The *Donkey Kong Country* series, in which the playable characters are apes and monkeys, uses bananas to perform a similar role.)

Some games do have internal economies; indeed, some MMO developers have had great difficulty keeping their in-game economies disconnected from the regular economy, and trying to enforce restrictions that prevent their games' currencies from being exchangeable with ordinary currencies. Note that, if anything makes in-game money virtual money, it is not the mere existence of these restrictions. Sometimes companies and other organizations have issued "scrip" tokens of their own making in lieu of normal money: scrip could be redeemed only in the company's own shop, and therefore bound those paid in scrip to their employers. (For this reason, in much of the modern world there are laws restricting the practice.) Scrip was a restricted substitute for normal currency, and might therefore be reckoned not to be real money, but is it virtual money? It was certainly not created for use in a virtual world.

To add to the complexity, there are also single-player games which make only a token effort to model economic behavior: in some RPGs it seems that shopkeepers exist exclusively for the player's benefit (as, in fact, they do), always happy to buy the fifty daggers that the player collected after recent battles, and that will remain in the shopkeeper's inventory for the rest of the game. What the player receives in exchange is money, and unlike the coins in *Super Mario Bros.* it works like money in the sense that it makes it possible to go shopping. If the currency of an MMORPG is virtual money, is this too virtual money?

RULES, LAWS, AND CODE

Of course, state-backed fiat currencies are grounded in financial laws, but online communities have rules too, and enforcement. An area of *Second Life* called the Cornfield was originally a place of banishment for the avatars of the unruly. Moreover, they have structures grounded in the software written to make their existence possible. As the legal scholar Lawrence Lessig puts it, "code is law" (2006, 5). Games exercise imperfect control over players; there would otherwise be no game left, no fun and no point. Yet they do impose constraints. (In fact, one kind of player takes a certain glee in finding flaws in the software that let things happen that a game's designers never intended.)

Indeed, programmers working on virtual worlds have powers denied to legislatures in the physical world, where the mightiest despot is unable to move mountains or change the strength of gravity. Distinctions between laws of nature and laws of political authority break

down in a context within which everything is structured by software. Easy distinctions between fact and fiction may be another casualty.

A virtual reality is implicitly a counterpart for mundane reality, even though virtual worlds are often popular because of differences from the mundane, from alternative sexual communities in *Second Life* to the scheming and feuding of space pilots in *EVE Online* (2003). People are notoriously unpredictable, but a virtual world is always artificial: a product of human planning and design, with perhaps some controlled randomization. In this sense a forest inside a virtual world is nearer to a golf course, or to parkland, than to wilderness, even if rules have been implemented to simulate an ecosystem. (When *Ultima Online* was first opened for public testing, the subtleties of its ecosystem were never seen— players killed everything too quickly [King and Borland 2003].)

Is there a counterpart in nonvirtual reality for the designers and programmers of virtual worlds, so absolute in power and so endlessly petitioned by discontented players? There is in fact a term for such beings, though their existence and nature in a reality outside virtual worlds has long been controversial and disputed. That term—of course—is *god*.

VIRTUALLY ART

Among the fundamental questions debated by art critics and philosophers of aesthetics is: What is art? What must something be in order to qualify as a work of art? For people grappling with this question, video games are frankly not the greatest source of perplexity. Objects notoriously exhibited in art galleries have included a urinal (Marcel Duchamp's *Fountain*, 1917), a dead cow (Damien Hirst's *Mother and Child [Divided]*, 1993), and an unmade bed (Tracey Emin's *My Bed*, 1998). Nevertheless, whether a video game can be a work of art has been the subject of debate: the film critic Roger Ebert attracted some attention when he contended that it could not (2010).

It is uncontroversial that games can contain art, created by people whose job titles identify them as artists or composers. (Indeed, video games have been partly responsible for the birth of new styles of art. The appeal of chiptunes, re-creating the primitive electronic sounds available to early game music, and pixel art, using techniques developed by the software industry to work within the constraints of few colors and low resolutions, owes much to the games of the 1980s and early 1990s.) Few games can do without art "assets" (the basic audio and visual elements used and often reused to build a game, such as sound effects)—mainly text adventures and some Roguelikes, which in their most venerable guise employ textual characters in a grid to stand in for images.

What is at stake, therefore, is whether a game can qualify as a work of art when taken as a whole, as a film in an arthouse cinema might be critiqued as art. The backdrop for this question is societies' tendency to ascribe an elevated status to art, or more specifically to what is considered "high" art. In some jurisdictions, for example, artistic merit is a valid legal defense against charges of obscenity—a situation once ineffectually lampooned by a British government-appointed committee as the doctrine that it is permissible for the public to be corrupted, so long as it is corrupted by art.

The mantle of art is therefore socially and politically advantageous for any up-and-coming medium of entertainment to claim. The film industry, however many cheerfully lowbrow films it produces, enjoys popular acceptance that motion pictures are a medium

through which serious ideas and weighty themes can be meaningfully addressed. That there are films enjoyed by the great and the good affects the tenor of public debate about film censorship. In contrast, the comic book industry in Anglophone countries has long struggled to achieve similar public credibility.

Video games are another medium that has been dogged by questions about media effects: whether they might lead people astray and into immoral actions, and whether they therefore invite censorship. (What to make of ethics in video games is the topic of a later section of this chapter.) Once seen as children's toys that most people grow out of, video games are increasingly enjoyed by adults who see no reason to stop having fun with them. But have they achieved the cultural cachet of cinema, and do they deserve to? Whether games can be an art form thus emerges as a question of status; there is a parallel debate about the extent to which e-sports (that is, competitive gaming as a disciplined pursuit) are comparable to sports as traditionally understood.

Whether video games can be art is therefore a question that can be divided into two: First, can games be art of any sort, even if they prove comparable at most to, say, the commercial art that adorns greeting cards? Second, is it possible to anticipate whether a game might achieve sufficient artistic merit to be spoken of alongside the great works of literature, painting, cinema, and so on? What counts as aesthetic merit on which video games could be judged?

APPRECIATING ART

Video games can tell stories, evoke moods, and present visually intricate scenes. What makes them distinctive is not something they lack compared to (for example) cinema, but something they add: interactivity.

Art is long, life is short, goes the ancient aphorism; and the scholarly literature on the nature of art is too long for summary in this chapter, which therefore does not aim to set up any definitions of art but rather to ask why interactivity should cast any doubt on games' potential status as art. Is it because what is called gameplay so often occurs in between the scene setting and storytelling, with the player assigned a role of keeping busy while progressing to the next noninteractive "cutscene"? Perhaps, if the comparison is with cinema; but one also sees it suggested, for instance, that leaping gracefully across chasms in a platform game is comparable to dance, which everyone acknowledges as one of the performing arts.

One might wonder whether such a game actually is a work of art, or facilitates artistry on the player's part. Still, the mere fact that the player must make a contribution is no clinching proof that a game cannot be an artwork. By common consensus the plays of Shakespeare represent the height of literary artistry, but whenever one of them is staged a director and actors must create an interpretation of it. The work that is performed before the audience is not simply "what Shakespeare wrote" but a performance that brings it to theatrical life. The audience in turn actively interprets what it sees: *Macbeth* was a different play as performed in an age when belief in witchcraft was so widespread that the king had written a book in support of witch hunts.

All art, including visual art statically exhibited in galleries, invites active minds to interpret and appreciate it. Viewers participate in an exhibition through their physical, embodied presence in relation to the exhibits, a fact highlighted by the naked art tours held by Australian museums in the 2010s, in which groups of viewers were invited to view

displays of works by James Turrell (1943–) and Stuart Ringholt (1971–) while naked. Clearly art can easily stand this much interactivity; however, the viewers at these exhibits may not have been intellectually passive, but what they were doing was nonetheless basically looking at art. This is the model of art appreciation in which a picture hangs on the wall while the sophisticated viewer stands back and stares fixedly at it, perhaps inwardly swooning, but swooning with critical, intellectual detachment. Such terms as *disinterested judgment* describe the expected attitude.

Playing video games obviously does not work like this.

CHALLENGING ARTWORKS AND CHALLENGING GAMES

Art of course can be sequential: for example, it can tell a story from beginning to end. However, watching a film or turning the pages of a novel does not require one to make progress in the way that playing a game does (though it may be possible to arrive at progressively deeper interpretations of an artwork). What aesthetic theorists sometimes call the autonomy of art, in keeping with the notion of art for art's sake, which arose among philosophers and artists in the nineteenth century, is part of a tradition of thought that holds that a work of art has no other purpose than to be art. This comes partly as a reaction to other ideas about what art is for, for example, that art ought to mimic the beauty of nature. This is why art critics are expected to exercise disinterested judgment: on this account, art (or at any rate fine or high or great art) is supposed to stimulate lofty intellectual musings, not to satisfy mere cravings to be entertained. Art is therefore celebrated for its uselessness. Video games have undoubtedly been called useless, but not generally in celebratory tones.

Critics may of course be heard asserting that some work of art is "challenging," but whatever challenge they find in trying to understand or appreciate the work, it does not seem to be anything like the challenge of the high score table in *Tetris*. Whereas the disinterested critic stands back, appreciating games means diving in. A disinterested player is a contradiction in terms.

With such a diversity of artworks in the world, not surprisingly it is possible to find examples of art in which challenge and progression do seem to be crucial elements. One candidate is *Kryptos*, a sculpture that is covered with a quartet of encrypted messages and stands on the grounds of the Central Intelligence Agency headquarters in Langley, Virginia. The challenge lies in deciphering the four messages, three of which were solved in the 1990s. *Kryptos* presumably counts as public art, and the encrypted text is certainly integral to the work.

There are also possible examples of video games that feature no challenge and barely less linear progression than a film. *Dear Esther* (2008/2012) involves trudging slowly through a landscape, with few available detours, while the protagonist narrates his reflections on his inner demons. Such terms as *walking simulator* are sometimes used to refer to games like this. Are they indeed games? They are sold in online video game outlets and reviewed by games journalists. (Compare the "artworld" definition of art by the art critic and philosopher Arthur Danto [1924–2013], according to which art is whatever is exhibited in art galleries, discussed by art critics, and so forth.)

Nevertheless, one stands on fairly safe ground when asserting that, on the whole, video games, by design, challenge players to make headway against successive obstacles, whereas, on the whole, other candidates for the status of art, if they challenge spectators, do so by challenging them to interpret the works they are examining. When skill in overcoming

challenges is appreciated in an artwork, it is conventionally the artist's, the author's, or the actor's skill that is praised. Authorship, however, is another thing that is made complicated by interactivity.

WHOSE WORK IS IT ANYWAY?

One thing one can say with some confidence is that artworks are products of authorship. Natural phenomena can be appreciated aesthetically—basking in the beauty of a sunset, for instance—but are not usually called art. On the face of it, video games would seem to meet this criterion easily, in that they are plainly artifacts, products of human ingenuity in design, rather than occurring naturally. However, interactive games complicate the matter of working out whose authorial intentions a work embodies.

Take, for example, video games that aim to capture the experience of playing sports or board games such as chess. It would be odd to say that the game of golf had an author (though golf courses have designers), or that chess emerged from the minds of any authors (though there are chess rulebooks, books of chess problems, and so forth). So the physical game that the video game is trying to capture does not appear to be the product of any authorial intent. Authorship seems to fizzle away into nothingness precisely where the gameplay, the interactivity, appears.

There is a counterexample to this line of argument, but it is one that implies that conspicuous authorial intent can actually be a defect in a sport simulator:

> Creators of sports games generally pride themselves on being big fans of the sport and working hard to deliver an authentic experience. But Dimitri Criona, [former] director of sales and marketing for Tecmo USA, believes that *Tecmo Bowl*'s excellent game play came, paradoxically, from the fact that its Japanese designers *weren't* familiar with [American] football. "The guys who did the game literally sat down with an NFL rulebook and read the rules of football. And because of that, they were able to program a game without bias. If you take an American programmer, he is inherently going to have some biases about the game. But if you take a Japanese programmer, he's going to create a program that follows the rules." (Kohler 2005, 219)

It used to be, and to some extent still is, commonplace to theorize gaming in terms of *ludology* (from the Latin *ludus*, "game," and *ludere*, "to play") and *narratology*. The ludologist emphasizes play above all else, and analyzes video games in terms of the rules and mechanics they present to players. The narratologist places emphasis on how games can be understood as a meaningful form of narrative.

A sports simulator, or an abstract puzzle game like *Tetris*, is an obvious fit for ludology; a role-playing game with a fantasy world to explore, characters to talk to, and a story line to follow is an obvious fit for narratology. However, it gets more complex than that: after all, people typically play sports games that feature official teams because the teams mean something to them. Because video games encompass all of these genres and more, the supposed ludology-narratology debate was never going to result in one approach vanquishing the other, and it gave way to wide acceptance that both have something worthwhile to say about the nature of video gaming.

If *Tecmo Bowl* (1987/1989) is a case in which a game is better with mechanical simulation of a rulebook than with someone's personal slant on the game of American football, what about games friendlier to a narratological approach, the ones that set out to tell stories (or let players create their own stories) and offer fictional spaces to explore?

INTERACTIVE STORYTELLING

A number of narrative techniques were used to develop the setting and story of *Thief: The Dark Project* (1998), a game of stealthy exploration in which players take on the role of Garrett the master thief. There are cutscenes between missions, mostly narrated by Garrett, that advance the plot and introduce the people and places that are about to be robbed. Garrett's voice is also used within missions, offering cynical observations on the world around him at certain moments. Yet much of the setting is established through things placed in the missions for the player to find while exploring. Creeping down a hallway, you might overhear a conversation between the guards ahead; duck into a nearby room and you may find someone's letter or diary to read.

The setting is also developed through the environments that the thief navigates: the City, home to corrupt nobles, hammer-wielding religious enforcers, and long-suffering men-at-arms, where power is intertwined with wealth, and the amount of wealth you can find and steal serves as a score to measure your abilities as a player. This is a very different kind of game from *Tecmo Bowl*, though it too is a simulation of sorts: *Thief* sets out to simulate hiding in shadows away from the bright lights, and arousing suspicion when walking on noisy surfaces. In offering players its fictional places to explore and rob, it develops that fiction not only through putting a linear exposition on the screen, but also through details the player can notice and overhear, or not, depending on how thoroughly any given player explores.

Unlike *Tecmo Bowl*, *Thief* has a story to tell; but the way it tells it often cedes the power of orchestration from the storyteller to the exploratory player. A game of this sort uses interactivity to open up possibilities for storytelling that are absent from linear, noninteractive media; but in order to do so it must allow some of the authors' authority to pass to the player.

It is because of the myriad ways in which players might choose to exercise their own authority that the ludological approach demands our attention again. An article that skeptically examines the idea that games can work as propaganda puts it this way: "Players are chaotic. Players don't care what you want. Players, allegedly, forced the closure of the online kids' game *Lego Universe* by frustrating every possible effort to stop them building giant penises. Even when they do what they're told, they may only do so cynically, out of a desire to be entertained" (Dodds 2015). It is by no means impossible for game designers to funnel players down one linear path. The usual demand is that it should be done subtly; if players find themselves frequently wandering off toward some interesting-looking piece of scenery, only to walk into invisible walls or find themselves mysteriously unable to hop over knee-high fences, then the limitations of the game's world become frustratingly obvious.

Linearity in other media is so unremarkable that it is experimental works that take pains to eliminate it. For example, Milorad Pavić's *Dictionary of the Khazars: A Lexicon Novel* (first published in English translation in 1988) is a novel arranged into alphabetized sections, the order of which changes when the novel (written in Serbian) is translated into languages with different alphabets. The novel dispenses with sequential order and uses cross-references to take each reader through the book in a different way. In video games, obvious linearity, so ordinary and unproblematic in a novel or a film, can be experienced as a failing.

ART AND NONART

This leads to some scratching of heads when it comes to identifying a game as an artwork. Analogies and comparisons with other media have been suggested: maybe games are a bit

like jazz, with an identifiable tune that is intended to be modified by a performer's improvisations (Tavinor 2010, 633). There seems to be more agreement that artistry is surely going on in games than that we can call a game a work of art without having to ask about instances of people playing it, as we might judge *Hamlet* to be a work of art without demanding to see some performances.

The more a game encourages players to exercise not only freedom but creativity, the more reluctance there may be to consider the game as art instead of a kit to enable artistry on the part of players. Take *Minecraft* (2011), chiefly a "sandbox" (unstructured) game of construction with cubes, with aspects of survival and adventuring in some modes. Impressively creative feats of construction have been achieved with this game, but if *Minecraft* itself is art, are Lego bricks art? Are building bricks art? The simplest way to avoid this runaway conclusion is to doubt that *Minecraft* is an artwork: one might liken it instead to a kit, or a set of props and scenery, or a collection of raw materials and tools.

Yet if *Minecraft* is a mere kit, what of, say, *Dwarf Fortress* (2006), no less renowned for players' feats of construction? It simulates the intricate histories of entire fantasy worlds. True, each of these worlds is generated at random before players get involved with it and add their own stories to the chronicle. Does this random element disqualify a game as art? Not necessarily: consider an outdoor sculpture, and how looking at it in its setting is an aesthetically different experience depending on the weather conditions at the time.

If some but not all games are art, then there ought to be some principle or principles by which to distinguish games that are art from games that are not. The difficulty lies in coming up with principles that are not easily confounded by some game or other—and there are a lot of diverse games out there that might serve as confounding examples. When players are given fairly free rein to apply their own stamps of authorship, it only gets harder.

VIRTUALLY IMMORAL?

It was noted above that the question of video games' status as artworks arises, in part, because art enjoys an exalted status that moderately shields it from censorship. Numerous, most often violent, games have become subject to moral alarm; the rapid development of graphical technology from the 1980s to the first decade of the twenty-first century meant that the same concerns would turn up again and again, applied to more and more visually detailed and realistic forms of gore. Following the Columbine High School massacre of 1999, in Colorado, a moral panic erupted when it emerged that the two teenage killers had enjoyed the first-person shooter *Doom* (1993); rumors circulated that one of them had designed *Doom* levels based on the school's layout. Such controversies litter the history of the video game medium.

In some countries, pedestrians in *Carmageddon* (1997) were replaced by green-blooded zombies, or even robots, as more socially acceptable targets for players' road rage. In Australia, many games developed for an adult audience were banned until 2011–2013, when the Australian age classification system finally added an 18+ rating for games, raising the existing ceiling of the 15+ rating under which numerous games had been refused classification.

Much of the legal, political, and social controversy that affects video games emerges from the same lines of thought that have found sources of alarm in other forms of art and entertainment: in this respect, *Doom* and *Carmageddon* played a role that an earlier age had

given to *Lady Chatterley's Lover*, a novel by the English writer D. H. Lawrence (1885–1930) that was first published in Italy in 1928 but, owing to its sexual content, did not appear in England until 1960 and was subject to bans and obscenity trials there and in several other nations. In modern times, much of the controversy has been linked to psychologists' research into "media effects" on audiences and the causes of aggression. This wider cultural context has influenced much of the debate around video games.

That specific debate has naturally had as its focus what makes video games a distinctive medium: their interactivity, the fact that games involve not only watching but also, and especially, doing. This is not, of course, uniquely true of video games: the *Dungeons & Dragons* tabletop role-playing system, which directly and indirectly influenced many video games, was itself subject to moral panics relating to alleged devil worship and psychotic episodes, mainly in the 1980s. Video games, however, are less easily fathomed than a group of people sitting around a table for some communal storytelling. Even when the games foster social interaction, they do so in ways that have given rise to much scratching of heads, as, for instance, regarding how to comprehend the rape in *LambdaMOO*.

GAMES AND ETHICS

Most frequently, when the morality of a video game becomes a hot topic it is through concern about what players might do when they cease to be players, when they leave the game and do other things. (Will your life of crime and reckless driving in the *Grand Theft Auto* series desensitize you to the harms of crime and violence in the real world? Will sleeping around in *The Witcher* [1997], with collectible card graphics standing in for notches on a bedpost, incline some players to treat women as mere sex objects?) However, in addition to concerns over the possible role gaming might play in inducing immoral behavior in the real world, there are other respects in which interactive play has raised ethical concerns.

Consider, first, a player who wanders around a game world, killing all and only the black people who appear in it. If the game does nothing to encourage players to make such a distinction, then it would seem odd to condemn the game for how this player is using it; but it is hardly necessary to know how the player acts outside the game in order to form the suspicion that this individual is a racist. An individual's choices in gameplay can be morally judged as acts in their own right. Popular legend has it that the reason a *Dwarf Fortress* revision made trade in mermaid bones unprofitable may have been that players' breeding programs for captured merpeople had disturbed the game's creator.

Second, because many games share aspects of other fiction media, such as novels and films, they too can be judged for any moral or immoral values and attitudes that they seem to embody—insofar, of course, as authorial intent or bias is detectable in a game. *Hitman 2* (2002) was criticized for encouraging violence within a setting strongly resembling the Golden Temple in Amritsar, a site in India that is holy to Sikhs and the scene of a real-life massacre in 1984.

There are therefore at least three respects in which the act of playing a particular video game might be subjected to ethical judgment, and in practice these will often meld together. Disentangling them touches on the questions raised earlier about what "I" do versus what "my avatar" or "my character" is doing. The next few sections explore these respects in turn: what games might do to players' ethics in real life, the ethics of players' conduct within games, and what games might have to say about moral or immoral conduct.

MEDIA EFFECTS

If you spend long hours shooting your competitors in online deathmatches, reveling in victory as their avatars' bodies explode into giblets and blood clouds, will these experiences shape your attitudes toward violence in general? Might they, by associating brutal combat with pleasurable entertainment, cause you to take more positive attitudes toward brutality in the real world, or dull your empathy for its victims? These are questions about how the human mind does in fact work, and psychologists have long been trying to answer them in relation to both gaming and noninteractive media.

Dispositions toward violence are tricky to measure, especially within the experimental bounds an academic ethics committee will permit. One experimental setup allowed winners in a multiplayer game to "punish" the losers with blasts of loud noise, and measured how often they chose to do so. However, no ethics committee would have allowed the noises to become dangerously loud, and plausibly the experimental participants knew that; so there is room to doubt whether the noise blasts were an informative proxy for violence.

Another approach to media effects comes from the humanities and media studies. These disciplines emphasize the variety of ways in which a work can be read in different contexts and by different audiences. (In the analysis of much academic theory, practically anything that can be interpreted as a product of human authorship is a text, a collection of meaningful signs.) These disciplines have a complicated relationship with the notion that art or entertainment can change the world or anybody in it. On one hand, changing economic behavior is what every advertising campaign sets out to do. On the other hand, as Terry Eagleton points out in his textbook on literary theory ([1996] 2015), immersion in the high-minded delights of the German poet Johann Wolfgang von Goethe seemingly did little to improve the ethics of Nazi concentration camp commandants.

Whereas the psychologists would like to tie down "violence" to something measurable, other disciplines question whether such a thing is possible even in principle. Some scholars, such as Henry Jenkins (2007), say outright that there is no such thing as "violence in the media" or "media violence." According to views of this sort, every work in every genre and every medium involves the mingling of so many tropes and techniques that picking out something called "violence" in multiple works, and looking for its effects on behavior, makes no more sense than asking in general terms about the effects of scenes set around dinner tables. It is, these criticisms continue, an approach that downplays to a ridiculous extent such contextual aspects as story line and characters and whatever else makes a particular work distinctive as that particular work, meaningful to particular audiences.

MORAL CULTIVATION

If you recall the earlier discussion of narratology versus ludology, you may sense an echo of it here. Insofar as video games share techniques and tropes with, say, films, they invite commentators to make the same point about the many forms "violence" can take in works of fiction. Yet games can also be understood in terms of their mechanics. A player who becomes skilled with one first-person shooter game is well placed to adapt to another. This gives rise to concern that players of violent games (if such a category makes sense) are learning to be violent, training themselves to act in violent ways.

It is one thing to polish one's skills, however, and another to develop violent tendencies. Few are alarmed that soldiers train intensively, because soldiers also cultivate military discipline: they develop their sense not only of how to be violent but also when. This is why

video game violence emerges as an *ethical* question. Learning to be moral, able to make and act on ethical judgments, forms part of personal development as a human being.

The most fundamental questions of moral philosophy are about the nature of ethical conduct: "How should we live?" or "What is the right thing to do?" If the putative answers are to be of more than scholarly interest, then of course moral philosophy needs to take account of human nature: what motivates people to act rightly and righteously, what lures them into failure to do so, and how they can become people who are reliably ethical.

Attempts to delineate the character of the ethical individual, and the kind of moral education that can produce one, stretch back to ancient times: the most influential theories of moral character emphasize the cultivation of specific virtues (courage, honesty, temperance, and so on: the exact list varies among different authors and what their cultures value). Virtue theories tend to emphasize the role of practice: for example, becoming a reliably honest person by repeatedly telling the truth (or at least not lying unless impelled to lie by, say, the virtue of tact).

So what kind of character-building practice are you getting if you like to while away the evenings in gory deathmatches?

ETHICS FOR AVATARS?

It is time to rewind to what was teased out earlier about the various things that can be meant by calling something a virtual experience. When encountering concerns about virtual murder, what should one make of them? A lot depends on how the self that does the killing in a game is related to the self that does things, and bears moral responsibility for doing things, in the real world.

It seems plain enough that players of multiplayer games, at least, can do things that say something about their moral character. Whoever used the persona of Mr. Bungle exhibited a bad character: not just the character "Mr. Bungle" but a bad character as a human being. However, killing other players in a competitive deathmatch, or killing artificially intelligent characters in a single-player game, is simply an expected part of the gameplay, just as a performance of violence (but not actual injury) is an expected part of historic battle reenactments.

Perhaps virtual murder in violent games is ethically fine, then, notwithstanding the fact that murder in the real world is not. Some debate has therefore been concerned with whether such a principle can be generalized to all virtual actions that correspond to unethical actions in real life. Morgan Luck introduced what he calls "the gamer's dilemma" (2009), which states that if you are happy for there to be virtual murder, you ought also to be content for there to be games of virtual pedophilia in which players sexually molest child characters; and if you are morally uncomfortable with the idea of virtual pedophilia then consistency should drive you to question your acceptance of virtual murder.

The language of virtual actions may be getting in our way here. Talking about virtual murder, virtual pedophilia, virtual rape, and so on carries with it the implication that there are the actions people perform and are morally judged on in the real, physical world, and then there exists a sort of shadow realm within which each of these actions has a virtual counterpart. Yet this is precisely what one may find oneself wondering when confronted by the gamer's dilemma: Is virtual murder to murder as virtual pedophilia is to pedophilia, or is this choice of language seducing people into supposing that it surely must be (Seddon 2013)?

PERSUASIVE GAMES

It may be best to step back from these heady questions of virtual wrongdoing and ask how video games in general can embody values or persuade players of them in the first place. Consider the *SimCity* series, in which the player is notionally the mayor of what starts as undeveloped land but soon becomes a bustling metropolis, with players responsible for zoning, utilities, public amenities, and so forth. The games involve certain assumptions about what counts as urban prosperity and what powers a city government can use to achieve it. The name *SimCity* implies city simulation—computer models of how urban economies behave, not utterly unrelated to the planning models a real municipal government might use.

Such a model cannot avoid having something to say about what constitutes the good life for a city dweller, especially if it is to offer a challenge to players. The effects of pollution on citizens' happiness, for example, make sense to players as a challenge because opposition to polluting industries is a familiar feature of the real world, in which the costs and benefits of heavy industry are debated endlessly. A city simulator inescapably takes a stance on those debates. (This is not unique to video games: in the early twentieth century *Monopoly* originated, with somewhat different rules, as a teaching tool to show that the concentration of private land ownership in too few hands was detrimental to society [Ketcham 2012]).

Some games, indeed, are actively designed to argue for views of how the world works and ought to work: Ian Bogost (2007) talks about "persuasive games" and "procedural rhetoric." The most obvious advocacy games are those that simulate resource management challenges like running a refugee camp or surviving on breadline wages, with the aim of helping players to understand the difficulties involved; but it is sometimes possible to identify messages in more mainstream games. *Cannon Fodder* (1993) is sometimes noted as a war game with an antiwar theme: it gives you a large but finite supply of loyal troops, each one individually named, and by the end of the game many of those names will be epitaphs (Gillen 2007). Underlining the point is its darkly ironic theme song, which opens with the line "War's never been so much fun." That is of course entirely true: no real war has ever been much like an entertaining video game. Perhaps *Cannon Fodder* works as a kind of satirically pointed antisimulation, sending up the kind of war game that indulges players' fantasies of soldierly heroism.

Games can set forth values and ideals in their treatments of success and failure, then, but the ways in which *SimCity* and *Cannon Fodder* do this have a doubtful connection to concerns about possible media effects of games. It has been quite common to hear the suggestion that violent games will "desensitize" players to human suffering, resulting in a stunted ability to empathize when making moral judgments, rather than to hear that they might persuade players of the credibility of any particular set of values.

A possible point of similarity, however, is that, if playing games does do anything to your faculties of moral judgment, then this might be happening below the level of your conscious awareness, whether the supposed effect on your mind is your desensitization to violence by *Doom* or your seduction by *SimCity*'s underlying assumptions about urban economics. Becoming skilled at any pursuit, including video games and notably including fast games that leave scant time for reflection, involves cultivating habits.

PITFALLS

That is why the crux of the matter is how gaming habits relate to habits in other parts of everyday life; and that in turn is why it matters to the debates on morals and media effects

whether one talks about gaming in terms of virtual realities, or fictional realities, or simulations, or representations, or depictions, or synthetic worlds, or something else. To speak of a murder simulator or a virtual murder sounds strikingly different from, say, "an interactive fictional story about a murder." Clarifying what is presupposed when we use terms like *virtual murder* should help to prevent accidental bewitchment by rhetoric.

The major headaches for a moral philosopher typically emerge not when pontificating about the ethical import of one game in particular but when seeking to produce a credible theory of game ethics in general. You might start with a realistic game overtly grounded in plausible scenarios of violence: *America's Army* (2002), say, which was explicitly developed for military recruitment. You expand your ideas to address, perhaps, the many games set during World War II. Then you remember that *Quake III Arena* (1999) lets you play as a gun-toting eyeball on legs, in a setting barely less surreal than *Super Mario Bros.* Some games ostensibly feature more visually realistic violence than others (if that makes any moral difference), but realism is another tricky topic when people want to talk about virtual realities.

It is frequently obvious that something within a game stands in some kind of relation to something in the physical world: perhaps a gun that the player can use mimics a real gun, for example. Games also have elements that, either more or less obviously, make no sense outside the context of their own design, like Mario's coins.

Respawning (returning to the fight after being killed) is elementary to many deathmatches, whereas, outside gaming contexts, resurrection, reincarnation, and rebirth are controversial tenets of several major religions. Gaming parlance even has a special name, permadeath, for death that actually means losing all one's progress. So how does death in a game relate to the death that comes to everyone? There can probably be no comprehensive answer to that question that downplays what the virtual murderers themselves think it all means to them.

VIRTUAL FUTURES

One of the noteworthy aspects of the traditional VR headset, with its screen for each eye, is how totally it immerses the user in what it displays and how thoroughly invisible it makes the real, physical world in the process. Yet there are variants that pointedly do not block out the physical world. Augmented reality (AR) technologies do not replace ordinary spatial vision with computer-generated imagery, but overlay it: potential applications include walking around a building site and seeing a representation of the finished structure as you look around you, or having the features of a map projected onto a surrounding landscape to aid navigation. Naturally, there are also AR games.

The Google Glass headset was released in prototype form in 2013 to considerable press interest, although much of that interest concerned the etiquette of wearing a headset capable of filming people wherever one went. In 2015 Microsoft showcased its HoloLens headset, part of the Windows Holographic platform for AR/VR computer interfaces.

Perhaps the fragmentation of virtual worlds bemoaned by Castronova will yet be undone. Perhaps a mixture of AR, constant and pervasive Internet access, and the conversion of ordinary objects into network-connected "smart" devices will create a world in which everyday reality is a "mixed" reality: a world in which, while simply walking down the street, you might spot a beacon that the developer of an AR game placed on the roof of a

Pokémon Go. *VR-style headsets are only one kind of AR device.* Pokémon Go *(2016), which lets players hunt computer-generated creatures in physical locations, is played on smartphones with cameras.* **WACHIWIT/SHUTTERSTOCK.COM.**

historic building that actually burned down in the 1800s. Or it might all ultimately prove to be just another fad.

POSSIBLE DIRECTIONS

It is from this position of uncertainty about the technological and cultural future that one gets to do philosophy of technology, and to grapple with video games and virtual reality even as they continue their rapid development. Here are a few tentative suggestions about where there might be burning questions in need of further debate.

The nature of the self, of what it is to be an "I" that finds itself in a world containing other selves, is a source of perennial puzzlement and likely to remain so. Everyday AR might bring humans nearer to becoming "cyborgs," blends of animal and machine (see also the chapter "Cyborg Humanity and the Technologies of Human Enhancement" in this volume). In a 1998 article Andy Clark and David Chalmers asked what practical difference it makes whether someone remembers facts or records them in a diary: the diary, they suggested, could form part of an "extended mind." The more our experiences are mediated through computers and depend on network connectivity, the harder it may become to identify where the boundaries of one's own, private experiences lie.

Debates about video games' media effects have included, besides violence, much identity politics: games' portrayals of different races, of women, and so on. Yet the tantalizing promise of virtual worlds was always that of forging one's own public identity; and if that was as a Haitian trickster spirit, or (sometimes) as a dolphin, nobody would bat an eyelid. Virtual worlds, and online communities more generally, may invite a greater emphasis in moral philosophy on newly emerging cultural identities.

This in turn might encourage debate on video games as art to shift in a more anthropological direction, with less emphasis on whether games could achieve the status of fine art or equivalence with arthouse cinema, and more on how they offer aesthetically meaningful experiences to the cultures and subcultures that form and coalesce around them. For example, comparisons with religious iconography and symbolic art may invite further philosophical investigation.

Debates about media effects have already advanced deep into cultural territory. As Henry Jenkins put it, "The key issue isn't what the media are doing to our children but rather what our children are doing with the media" (1999). On the other hand, explorations of how game systems relate to ethical (and political, social, and legal) rules are probably still in their infancy. Some games have featured more or less explicit models of moral action and moral judgment: some RPGs, drawing on the alignment systems of *Dungeons & Dragons*, have tracked players' actions with a kind of morality score and featured concomitant systems through which the game world can react to their developing reputations. Moral philosophers, who tend to be prone to debate whether ethics should be grounded in rules in the first place, have good reason to wonder how far software could potentially go in fostering ethical reflection, and what counts as fostering it accurately.

Summary

The assumption of another appearance, under another name, has existed in the physical world since time immemorial: it is called a disguise. Avatars in MMOs might be thought of as disguises, easily cast off and quickly changed. Then again, they might be seen as more expressive of players' truer selves than the clothes they wear to the office. Phenomena like virtual currencies in virtual worlds (as studied by real economists) underscore how much of the familiar, physical world is artificially structured by laws, social conventions, language, bureaucratic measurement, and increasingly by computers.

Yet whereas some virtual realities blend into everyday experiences, other aspects of games in particular seem to make little sense outside their native context. The purpose of collecting coins in *Super Mario Bros.* cannot be directly translated even into the context of all other video games (for not every video game uses extra lives). No sense can be made of these coins without reference to how players progress through the game.

These observations can pull in different directions. When a player owns an item in an MMO, is this a novel kind of private property that existing legal systems ought to recognize, or property in some fictive sense, or property in a sense that itself makes sense only within the context of playing the game? When players kill each other in a deathmatch, is it the design of the game or the impressions of the players that mainly determines how their contest relates to actual killing?

Binding these various realities together are the human selves that experience and explore them; but even here, some technologies emphasize an embodied self, others liberation from physical constraints. The philosophical challenges that emerge in video games and virtual reality are challenges in understanding not only the implications of technology but also the nature of ourselves.

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