Moral Dilemmas in Computer Games

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Introduction

Some of the most popular recent computer games have used morality as a marketing strategy, promising that players' moral choices would critically affect the game experience.[1] Although many of these games have been criticized for proposing shallow dilemmas that do not reflect the ethical possibilities of aesthetic expression, morality nevertheless is a topic that professional game designers increasingly feel the need to address.[2]

This paper addresses the question of the design of ethical game-based experiences, arguing that developers should focus on presenting players with ill-defined problems that demand ethical thinking and creative engagement as part of the gameplay experience. Taking concepts from design research and philosophical ethics, this paper postulates that game designers have approached morality in games as a tame problem, formalizing decision-making through finite, solvable, computable puzzles.[3] This approach has proven commercially successful but aesthetically unsatisfying because it encapsulates the process of ethical thinking in the context of gameplay dynamics, which are not necessarily related to the moral nature of players.[4]

This paper starts with a brief definition of gameplay and ethical gameplay in the context of single-player games. The purpose is to understand what ethical gameplay is and how it has been implemented in computer games. The next section discusses the concept of wicked problems, focusing on how design thinking and moral practices relate. The third section elaborates on why wicked problems can be used for creating ethical gameplay, and the article closes with a short reflection on the implications for game design.

These arguments are illustrated with the critical analysis of existing computer games using the terminology of ethics and design research. This analysis is based on the author's individual experience as a player—a method recognized as a fruitful approach in game studies.[5] The theoretical findings in this paper have been presented and discussed with individual professional game designers. They have also been used in game development

1 Examples include 2K Marin/Digital Extremes/2K China/Arkane Studios, *Bioshock 2* (2K Games, 2010); Quantic Dream, *Fahrenheit* (Atari, 2005); Quantic Dream, *Heavy Rain* (Sony Computer Entertainment, 2010); Obsidian Entertainment, *Fallout: New Vegas* (Bethesda Softworks, 2010); Lionhead Studios, *Fable* (Microsoft Game Studios, 2004); Irrational Games,*Bioshock* (2K Games, 2007); and Bethesda Game Studios, *Fallout 3* (Bethesda Softworks/ZeniMax Media, 2008).

2 For analyses and critiques of the games, see Miguel Sicart, *The Ethics of Computer Games* (Cambridge, MA: The MIT Press, 2009); and José Zagal, "Ethically Notable Videogames: Moral Dilemmas and Gameplay," (2009) http://facsrv.cs.depaul.edu/~jzagal/Papers/Zagal-EthicallyNotableVideogames.pdf (accessed February 27, 2012). Morality and aesthetics are addressed in: Wayne Booth, *The Company We Keep: An Ethics of Fiction* (Berkeley, CA: University of California Press, 1988); and Elisabeth Schellekens, *Aesthetics and Morality* (New York: Continuum, 2007). For explorations of the possibilities in game design, see Raph Koster, *A Theory of Fun for Game Design* (Scottsdale, AZ: Paraglyph Press, 2005); Jonathan Blow, "Design Reboot," (presented at the Montreal Indie Game Summit, November 27, 2007), http://braid-game.com/news/?p=129 (accessed June 30, 2012); and Richard Rouse III, "Seven Ways a Video Game Can Be Moral," (presented at the Game Developers Conference 2011, March 2, 2011).

3 Richard Coyne, "Wicked Problems Revisited," *Design Studies* 26, no. 1 (2005), 5-17.

Design*Issues:* Volume 29, Number 3 Summer 2013 doi:10.1162/DESI_a_00219

workshops in studios located in Copenhagen and the surrounding area. However, this article is intended to be a *philosophical* treatment, focusing on exploring ideas and concepts rather than empirical data.

This paper focuses on the design of ethical gameplay in single-player games. Serious games, as well as political games and other instances of critical play, have been intentionally left out because their sociotechnical conditions of development, distribution, and reception require a different understanding of their design needs.[6] Similarly, we devote no attention to issues related to unethical content of games, or the morality of playing violent, sexist, or racist-themed games because doing so would require a different theoretical approach.

Defining Ethical Gameplay

The concept of gameplay, even though it is widely used in game design literature, lacks a formal definition.[7] This makes it more complicated to apply—in particular, when trying to address the ethical or political effects of computer games. This section defines gameplay and ethical gameplay.

On Gameplay

Bateman and Boon define gameplay as "performance oriented stimulation," differentiating between play mediated with toys ("tools[s] for entertainment") and play mediated with games ("a toy with some degree of performance)."[8] Gameplay, then, limits performance, based on the rules of the game and the goals it proposes.

A different take, closer to play theory, is that of Salen and Zimmerman, who define gameplay as "a form of play […;] the formalized interaction that occurs when players follow the rules of a game and experience its system through play."[9] Gameplay is a subset of play, understood as "free movement within a more rigid structure."[10] This definition recalls Suits's argument that playing a game is the "attempt to achieve a specific state of affairs (prelusory goal), using only means permitted by rules (lusory means), where the rules prohibit use of more efficient in favor of less efficient means (constitutive rules), and where the rules are accepted just because they make possible such activity (lusory attitude)."[11]

Similarly, Juul argues that gameplay is what results from the interaction between three different elements: 1) the rules of the game; 2) the player's (or players') pursuit of the goal (i.e., the player seeks strategies that work in light of the emergent properties of the game); and 3) the competence of the player and his or her repertoire of strategies and playing methods.[12]

Each of these definitions of gameplay keeps players within their rules-directed interaction with the game system. Players are educated input providers, and their tasks are to create and

4 Robin Hunicke, Marc LeBlanc, and Robert Zubek, "MDA: A Formal Approach to Game Design and Game Research (2004)," http://cs.northwestern.edu/~hunicke/pubs/MDA.pdf (accessed June 30, 2012).

5 Espen Aarseth, "Playing Research: Methodological Approaches to Game Analysis" (presented at the Melbourne, Australia DAC Conference, May 19-23, 2003); Mia Consalvo and Nathan Dutton, "Game Analysis: Developing a Methodological Toolkit for the Qualitative Study of Games," *Game Studies* 6, no. 1 (2006), www.gamestudies.org/0601/articles/consalvo_dutton (accessed June 30, 2012).

6 Mary Flanagan, *Critical Play: Radical Game Design* (Cambridge, MA: The MIT Press, 2009). Also see Sande Che and David Michael, *Serious Games: Games that Educate, Train, and Inform* (Boston: Thompson Course Technology PTR, 2006); Ian Bogost, *Persuasive Games: The Expressive Power of Videogame* (Cambridge, MA: The MIT Press, 2007); Simon Egenfeldt-Nielsen, *The Educational Potential of Computer Games* (New York: Continuum, 2007).

7 Ernest Adams and Andrew Rollings, *On Game Design* (Indianapolis, IN: New Riders, 2003); Tracy Fullerton, *Game Design Workshop: A Playcentric Approach to Creating Innovative Games,* 2nd ed. (Amsterdam: Elsevier, 2008).

8 Chris Bateman and Richard Boon, *XXI Century Game Design* (Hingham, MA: Charles River Media, 2006), 127.

9 Brian Sutton-Smith, *The Ambiguity of Play* (Cambridge, MA: Harvard University Press, 1997), 303.

10 Ibid., 304.

11 Bernard Suits, *The Grasshopper: Games, Life and Utopia* (Peterborough, Ontario: Broadview Press, 2005), 54-55.

12 Jesper Juul, *Half-Real: Videogames Between Real Rules and Fictional Worlds* (Cambridge, MA: The MIT Press, 2005), 90-91.

optimize strategies bound by the rules of the game. These ideas disregard the possibility that gameplay can include all the behaviors that take place inside the "circle" of the game system but are not strictly determined by it.[13] Thus, this understanding of gameplay ignores instances of appropriative, creative, or *subversive* play.[14]

Gameplay is related to the formal properties of a game, understood as the procedural system, but it also defines the player experience and, through it, the meaning of the game. In formal terms, gameplay can be defined as a ludic experience regulated by game rules, mediated by game mechanics, and oriented to the satisfactory achievement of goals predetermined by the game and agreed on by players.

However, space still must be provided for player creativity and agency. Therefore, the ludic experiences to which this definition refers are also activities such as interacting with toys or *ilinx*–inducing *performances*.[15] Experience is here understood as *Erfahrung*, or true experience: "The work of art has its true being in the fact that it becomes an experience that changes the person who experiences it."[16] Games afford these types of experiences by means of their design, but the will of players to *play* is what makes them ludic experiences. By design, games constrain play into gameplay via their formal properties. In Suits' words, rules are "proscriptions of certain means useful in achieving prelusory goals."[17] Designers create rules and systems to cue certain types of gameplay, but players appropriate those rules and create the space of possibility.

Gameplay is defined by the goals stated by the game system but is actualized by players *when playing*. Thus, gameplay should be understood *from* the rules, but *as* a player experience—a creatively engaging activity.[18] Gameplay, in short, is the designed element of the ludic experience, open toward player appropriation.

On Ethical Gameplay

Computer games and ethics often are brought together in the context of "serious games."[19] Because games are systems, they are optimal for simulating processes, which makes them ideal tools for teaching and persuading about the workings of systems.

From a more philosophical perspective, this approach can be used to argue that games excel at fostering a type of "instrumental rationality" that encourages rational behavior toward predefined goals.[20] However, play is not a fully instrumentally rational behavior.[21] Instead, play has been described as a dialogue—a tension between structure and freedom.[22] Game design should try to help the space shaped by those tensions to be productive and meaningful.

13 Johan Huizinga, *Homo Ludens: A Study of the Play-Element in Culture* (Boston: Beacon Press, 1992 [1938]).

14 Guy Debord and Becker-Ho, *A Game of War* (London: Atlas Press, 2007); Mia Consalvo, *Cheating. Gaining advantage in Videogames* (Cambridge, MA: The MIT Press, 2007); T. L. Taylor, "The Assemblage of Play," *Games and Culture* 4, no. 4 (2009), 331-39; Douglas Wilson and Miguel Sicart, "Now it's personal. On Abusive Game Design" (Paper presented at the Future Play Conference, Vancouver, 2010). Retrieved from: http://doougle.net/articles/Abusive_Game_Design.pdf (accessed April 24, 2013).

15 See Roger Caillois, *Man, Play and Games* (Urbana, IL: University of Illinois Press, 2001 [1958]), 12, 23-24, and Chapter 3.

16 Hans Georf Gadamer, *Truth and Method,* 2nd ed. (New York: Continuum, 2004 [1960]), 103.

17 Ibid., 51, n15.

18 See also the concept of gameplay gestalts, in Craig Lindley, "Narrative, Game Play, and Alternative Time Structures for Virtual Environments," in *Technologies for Interactive Digital Storytelling and Entertainment: Proceedings of TIDSE 2004* (Darmstadt, Germany: Springer, 2004), 183-94; Zafer Bilda, Ernest Edmonds, and Linda Candy, "Designing for Creative Engagement," *Design Studies* 29, no. 6 (2008), 525-40.

19 Karen Schrier and David Gibson, *Ethics and Game Design: Teaching Values Through Play* (Hershey, NY: Information Science Reference, 2010).

20 Jürgen Habermas, *The Theory of Communicative Action* (Boston: Beacon Press, 1984).

21 Jonas Heide Smith, *Plans and Purposes: How Videogame Goals Shape Player Behavior* (Thesis, IT University of Copenhagen, 2006): http://jonassmith.dk/weblog/wp-content/dissertation1-0.pdf (accessed June 30, 2012).

22 Bernie DeKoven, *The Well-Played Game: A Playful Path to Wholeness* (Lincoln, NE: Writers Club Press, 2002).

Nevertheless, computer games are often designed to encourage instrumental play through the use of goals and rewards and the prevention of catastrophic or irreversible failure. When facing a decision that potentially limits their possibility space, players are often given the option of saving the game state, so that they can explore other options in the future. Making mistakes is encouraged by means of save/reload mechanisms. This type of design encourages instrumental play.

However, instrumentality seems to be at odds with experiences that invoke ethical thinking. Instrumentality calls for "power gaming"—for players to make decisions based on strategies afforded by the game design, rather than on the moral meaning of their actions.[23] In computer games, dilemmas are often designed to illustrate the different "moral paths" a player can follow, but these designs do not force players outside of the behavioral patterns of instrumental rationality because all choices are defined in advance and are reversible as long as the player has saved the state of the game. Players think strategically, not morally. Instrumental play optimizes, by design and by behavior, either the results of the game experience as quantified by the game system (i.e., its goals and challenges) or the results of the social aspects of the game experience (i.e., the so-called "well-played game").[24] Instrumental play is fluid, rewarded, and encouraged by design elements, such as incentives and goals.

Let's then consider ethical gameplay as the opposite—as a pause. Ethical gameplay happens as a caesura in the act of play, as a moment of hesitation in which the player is not applying social or strategic thinking to engage with the game. Instead, the pause forces the player to apply another type of thinking: *ludic phronesis*.[25] *Ludic phronesis* is the practical wisdom that guides decision-making processes based on moral arguments in the context of game experiences.

For *ludic phronesis* to be applicable, players have to be morally invested in the decisions made, and they have to reflect upon the meaning of the choices they are given. *Ludic phronesis* not only affects the moment of choice but also the general sequence and meaning of play. It defines who we are as ethical players of a game. Given these requirements, it also breaks the loop of instrumental play, forcing the player to pause and apply ethical thinking in making a choice.

Ethical gameplay, then, happens as a pause in the fluidity of play—a caesura that forces players to evaluate their behaviors in light of ethical thinking, rather than ludic strategic thinking. Ethical gameplay happens when the game affords a different type of thinking and acting, so that the player as ethical agent is invoked. The question remains: How can a game be designed to create such pauses in play?

23 T. L. Taylor, *Play Between Worlds: Exploring Online Game Culture* (Cambridge, MA: The MIT Press, 2005).

24 Richard Buchanan, "Wicked Problems in Design Thinking," *Design Issues* 8, no. 2 (1992): 5-21.

25 Carl Mitcham. "Ethics into Design" in Richard Buchanan and Victor Margolin, Eds., *Discovering Design. Explorations in Design Studies* (Chicago: The University of Chicago Press, 1995), 173-89. See also my own work cited in note 2.

Morality and Wicked Problems

Since the original formulation of wicked problems by Rittel and Webber,[26] their relevance in the context of design theory, urban planning, business management and strategy, and design thinking and cognition has often been noted and discussed.[27]

The concept of wicked problems can be used to define the challenges designers face in their practice. A wicked problem is "a class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision-makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing."[28] Wicked problems can also be used to describe any type of problem: "In fact all problems have the character of wicked problems, even math problems or simple puzzles."[29]

This notion of wicked problems also resonates with the research on ethical theory and decision-making.[30] Whitbeck's work is an elaboration on that relationship, seeking to establish analogies between ethical thinking and design thinking through the analysis of ethical problems and the different ways that agents solve them.[31] According to Whitbeck, both ethical and design problems are practical problems; thus, "the similarities between ethical problems and… design problems are instructive for thinking about the resolution of ethical problems and correcting some common fallacies about them."[32]

Problems and dilemmas can be understood in analogous terms because they define situations in which moral thinking is needed to decide between available choices.[33] Whitbeck explicitly examines dilemmas that are used to illustrate either different ethical theories or particular situations that demand ethical thinking. These dilemmas, she says, are often reductionist in nature, and their philosophical depth is limited by the fact that the dilemma is already designed with the answers in mind: "The view that ethical problems have unique correct solutions is more plausible if one starts from the assumption that possible responses to ethical problems are determined in advance and [are] fairly evident. That would make ethical problems multiple-choice problems."[34]

However, ethical problems, like design problems, seldom lend themselves to reductionism. In fact, both ethical thinking and design thinking are attempts to reducing the scope of a problem so that plausible solutions can be found: "Practical problems may or may not have solutions.... Some call for coping rather than for solution.... Both ethical problems that call for solution and those that call for coping have their counterpart in design problems, though good ways of coping are also called 'solutions' in the case of design problems."[35]

In the context of this paper, "practical problems" are to be considered wicked problems. Wicked problems are structured around imperfect information and a network of outcomes that

26 Horst Rittle and Melvin Webber, "Dilemmas in a General Theory of Planning," *Policy Sciences* 4 (1973): 155-69.

27 Buchanan, "Wicked Problems in Design Thinking."

28 Ibid., 15 n32.

29 Ibid., 8 n5. However, simple puzzles could be considered as lesser wicked problems.

30 Gary Klein, *Streetlights and Shadows. Searching for the Keys to Adaptive Decision Making* (Cambridge, MA: The MIT Press, 2009).

31 Caroline Whitbeck, *Ethics in Engineering Practice and Research* (Cambridge: Cambridge University Press, 1998).

32 Ibid., 54.

33 Shaun Nichols and Ron Mallon, "Moral Dilemmas and Moral Rules," *Cognition* 100, no. 3 (2003), 530-42; Terrance McConnell, "Moral Dilemmas," in *The Stanford Encyclopedia of Philosophy,* ed. Edward N. Zalta, http://plato.stanford.edu/entries/moral-dilemmas/ (accessed on June 30, 2012).

34 Whitbeck, *Ethics in Engineering Practice and Research* 57, no. 36.

35 Ibid., 54.

make the consequences of decisions difficult to predict. Much like problems of a moral nature, wicked problems require that a particular type of thinking—design thinking—be used to approach the problem and to suggest a number of solutions (references). Given the similarities between wicked problems and ethical problems, we can argue that ethical thinking and design thinking have a number of common traits.

Even though the concept of wicked problems was originally developed to address issues in urban planning, it also has been widely used in design research to describe the types of problems designers face, leading to reflections on what "designerly ways of knowing"[36] actually means. Whitbeck elaborated on the analogy between design thinking and ethical thinking. This analogy allows us to establish a relation between ethics and wicked problems that can be fruitful to consider in studying the design of ethical dilemmas in computer games.

Wicked Problems and the Design of Ethical Gameplay

Game designer Sid Meier once defined games as "a series of interesting choices."[37] Meier argued that for players to be engaged in the game, they have to be presented with choices to which they feel emotionally attached, and these choices must not be equally good. The player also should have enough information to make an informed choice, and no single choice should be best.

These general principles have become common lore in game design theory. Most game design texts understand game design as the practice of crafting a system following Meier's ideals. "Informed choices" has been translated to mean frequent updates on the consequences and motivations for their choices.

In terms of creating ethical gameplay, this player-centric design has been translated into the design of ethical dilemmas. Although ethical dilemmas have been present in single-player computer games since *Ultima IV,* the design of these dilemmas has barely changed: Given a particular situation, a player faces a choice that leads to different narrative paths or gameworld states. Most single-player computer games base their ethical gameplay design on these multiple-choice decision trees. However, following Meier's maxim, players are often well informed not only about the morality of those choices, but also about the branching narrative. Choices are often presented as either/or, good/bad binaries with relatively predictable outcomes. In this sense, players have enough information to make strategic choices—they are able to minimax the game without necessarily making use of their ethical skills. These designs afford players no caesura.

From a design perspective, this type of dilemma design focuses on creating tame problems: algorithmic, binary state machines wrapped in basic moral dilemmas. In Whitbeck's terms,

36 Nigel Cross, *Designerly Ways of Knowing* (Basel, Switzerland: Birkhäuser, 2007).

37 See note 10.

"the view that ethical problems have unique correct solutions is more plausible if one starts from the assumption that possible responses to ethical problems are determined in advance and fairly evident. That would make ethical problems multiple-choice problems."[38]

In current ethical gameplay design practices, then, players are understood as strategic input providers. The actual instances of ethical gameplay design are too careful and too conservative to present ethical challenges as more than mere gameplay challenges; strategic decisions affect what branch of the game narrative or the game world state will be explored when, but they do not challenge the moral decision-making skills of players.

Game design needs to address players as moral agents, providing them with choices that require more than procedural thinking and that are not easily translatable into strategies. In Whitbeck's words, "for the agent facing an ethical problem, not only are the possible responses undefined, but the nature of the problem situation itself is often ambiguous."[39] Wicked problems might offer a way of framing the design stance that game developers need to take when creating these types of experiences.

Consider an example from *Fallout 3*. When players discover the Tempenny Tower quest, they find a building in which the dream of a time past is preserved. The dominant cast keeps the population happy but scared, preventing riots by presenting the ghouls that roam just outside the residence as *the* enemy. Throughout the game, however, ghouls are presented as mostly pacific denizens. In this quest, players face a dilemma: They can eliminate all ghouls in the proximity of the Tower, help the ghouls kill the humans, or negotiate peace between both.

The Tempenny Tower quest illustrates how ethical gameplay can be implemented in computer games. Players are presented with a dilemma that demands ethical thinking. Strategically speaking, supporting any faction provides roughly equal "rewards;" therefore, instrumental reasoning will not be sufficient to make a decision. Players have insufficient information regarding the outcomes of their choices, so their main compass is their morality, both as players and as cultural beings outside the game. Of course, the third resolution to the dilemma seems the most ethical. However, players who make that choice will discover, upon later returning to the Tower, that ghouls have killed all the humans. From the perspective of players, the Tempenny Tower quest is a wicked problem.

Fallout 3 has a number of quests that follow this structure: Players are presented with situations with no clear narrative- or system-driven indication as to what choice to make. *Fallout 3* has no game-based ethical system that guides the player toward making a particular moral decision, nor does it have an overarching,

38 Note 36, 57.

39 Ibid, 72.

clearly presented moral system that evaluates players' actions. Hence, given no external systems of evaluation or guidance, the player's values are what guide how dilemmas are resolved.

These quests are presented to players as ill-defined problems: Players have insufficient information about the moral implications of their actions. Also, given how *Fallout 3* is built around principles of gameplay and narrative emergence, players can predict only to a limited extent the outcome of their decisions.[40] In contrast to more conventional ethical gameplay designs, in which players can calculate the outcome of their decisions based on the externally imposed moral system, in *Fallout 3* morality is not an issue of multiple-choice tests. In its wicked quests, players rather than systems are placed at the center of the design of ethical gameplay, as the system stays open to interpretation.[41]

Philosophically speaking, this argument presupposes a constructivist ethics approach, a popular view in ethics and information technology research.[42] The constructivist argument proposes that for a game to create ethical gameplay, players have to be made responsible for their choices, as well as for their development as moral agents. Players are made responsible when they are encouraged to apply ethical thinking to their gameplay dilemmas. In fact, players construct their meaning of the game by means of their own values.[43] Players interpret, accept, and act according to their values in the gameworld, and even if the game system quantizes the output of their actions, their values still are at stake and drive their decisions.

Making players face wicked problems, then, can create ethical gameplay. Game designers seeking to make their players engage their moral values should create wicked problems in their approach to narrative and gameworld design. In addition, because ill-defined problems invoke a type of thinking that is close to moral reflection, game designers could take advantage of that similarity to create dilemmas based on imperfect information and unpredictable outcomes, lacking a telegraphed or easily perceived moral compass.

Ethical gameplay design forces game designers to put players, addressed as ethical agents, at the center of the design. Instead of feeding them with the *right* information, designers give them information that might cause them to act in ways that are unpredictable but are based on their values. Says Gaver, "When systems are designed to be ambiguous, avoiding clear interpretation and normative paths of action, it is impossible in principle to predict how people will engage with them. In a very real sense, such designs are completed by their users."[44] Designers can only suggest, and not determine, the values by which their players will play. In addition, as a second design challenge, thinking about wicked problems as a cornerstone of ethical gameplay design

40 Penny Sweetser, *Emergence in Games* (Boston: Charles River Media, 2008).

41 Phoebe Sengers and Bill Gaver, "Staying Open to Interpretation: Engaging Multiple Meanings in Design and Evaluation," in *Proceedings of the 6th Conference on Designing Interactive Systems* ACM, New York, 2006), 99-108.

42 Terrence Bynum, "Flourishing Ethics," *Ethics and Information Technology* 8, no. 4 (2006): 157-73; Philip Brey, "The Ethics of Representation and Action in Virtual Reality," *Ethics and Information Technology* 1, no. 1 (1999): 5-14.

43 John McCarthy and Peter Wright, *Technology as Experience* (Cambridge, MA: The MIT Press, 2004).

44 Bill Gaver, "Designing for Homo Ludens, Still," in *(Re)searching the Digital Bauhaus,* ed. Thomas Binder, Jonas Löwgren, and Lone Malmborg (London: Springer, 2009), 163-78.

forces developers to rethink traditional approaches to features such as saving, reloading, milestones, and consequences in the gameworld via systems or narratives.

The design of wicked problems for ethical gameplay clashes with some fundamental traditions and practices in game design. For example, games are always solvable; they are attractive because, unlike moral problems, they are encapsulated systems that provide a resolution to the action. Designers invested in creating compelling ethical experiences through the design of wicked problems should prepare for potential complaints from players used to having adequate information regarding their choices.

Furthermore, the design of wicked problems for ethical gameplay clashes with the fact that almost any state in a game is often savable to memory and therefore reloadable. Games are often designed to allow players to save a particular state; test a solution to a problem; and, in case of an unsatisfactory outcome, reload to the previous state. This reversibility of events is an obstacle in the exploration of ethical gameplay. If a player knows when facing a dilemma that she can return to a previous game state, the potential ethical implications of that choice are diminished. Arguably, computer games traditionally have been designed for instrumental play.

To avoid this problem, designers would have to create the saving systems during their creation of ill-defined ethical dilemmas in games. Creating challenges for players based on wicked problems' characteristics is not enough: Designers also need to address the computational nature of the system and the ways that states are saved and accessed by the player. As this challenge shows, ill-defined problems are defined not only by their semantic level, but also by how the system of rules is designed.[45] Wicked problems for single-player computer game design are not just representations of morally challenging situations; they also are embedded in the design of the computer program and the system of rules.

Summarizing, if ethical gameplay arises when players engage their ethical capacities in their choices, designers should present players with wicked problems that force them to pause in their instrumental play and apply ethical thinking to their in-game choices.

The Future of Ethical Gameplay Design

This article argues that to design compelling, ethical experiences for games, game developers must create ill-defined problems for players. These problems, while being computable and inscribed within the rules of the game, must also force players to apply moral thinking to their decision-making processes, thereby creating ethical gameplay.

45 Miguel Sicart, "The Banality of Simulated Evil: Designing Ethical Gameplay," *Ethics and Information Technology* 11, no. 3 (2009): 191-202.

Designers who aspire to challenge players ethically—to let them experience the world and explore their values through play—should create wicked problems that tease players into playing ethically, engaging with the game using their moral skills. Nevertheless, designers must also recognize that ethical gameplay requires a player who voluntarily *wants to play ethically*—it is a voluntary detachment from instrumental play. Because games are primarily forms of entertainment, players who want to simply enjoy a game by means of instrumental play should also be allowed to do so.

Future Research

Much remains to be done in future ethical gameplay research. One important focus is to better clarify the relationship between such gameplay and critical design theories and practices.[46] Another important focus would address the work of design researchers who have approached the ludic, reflective, and engaging aspects of interaction design.[47] Ethical gameplay design has much to learn from the approaches in which the object created is itself critical of the situation, context of use or production, and meanings it creates.

Another area of development is the connection between ethical gameplay and ethical theory. If ethical gameplay implies engaging with a game using moral thinking, and the design of ethical gameplay involves making the player face wicked problems, which ethical theories are applicable to the understanding of these phenomena? As mentioned, constructivism seems a valid approach to understanding the relations between morality and computation because it allows for critical reflection on the agents' values, as well as the systems' values, and how they are interrelated.

The literature on game and ludic design has focused on how players can be engaged through playful systems that appeal to rationality and to the body, to our culture and our dreams. Ethical gameplay design moves us one step further in the direction of understanding what is at stake in our play practices.

46 Anthony Dunne, *Hertzian Tales: Electronic Products, Aesthetic Experience, and Critical Design* (Cambridge, MA: The MIT Press, 2006).

47 Phoebe Sengers, Kirsten Boehner, Shay David, and Joseph Kaye, "Reflective Design," in *Proceedings of the 4th Decennial Conference on Critical Computing: Between Sense and Sensibility,* Olav W. Bertelsen, Niels Olof Bouvin, Peter G. Krogh, and Morten Kyng, eds. (New York, NY: ACM, 2005), 49-58.