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SERIOUS MORAL GAMES

Analyzing and Engaging Moral Values Through Video Games

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Publisher Institute for Design Research
at the Zürich University of Arts
Hafnerstrasse 39
CH-8003 Zürich

Design gut&schoen with Nadine Rinderer

Editing Christen, Markus; Götz, Ulrich; Suter, Beat

Translation Thames, Bradley J.; Thames, Manuela S.

Press Linkgroup AG (German version)

Paper Daunendruck White, 1,5 volume (German version)

Fonts Rekja, Recibo

Edition 500 copies in December 2012 (German version)

ISBN 978-3-906178-01-1

www.zhdk.ch

The English version is available as download at:
http://www.zhdk.ch/index.php?id=39457

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Abstract

The book Serious Moral Games illuminates a phenomenon widely discussed in the public realm from a new angle: the relationship between video games and morality. Instead of following the common line argument maintaining that the contents of video games rarely serve or even corrupt the understanding or promotion of moral actions, the authors consider the benefits these games might have to moral research and education.

Could video games be useful instruments with which researchers can investigate the moral behavior of the players? Could these games even be a means for the players themselves to learn more about their own moral perceptions and values?

Through analyses of common video games, the book Serious Moral Games contributes to the debate by demonstrating the potential that lies in these games, a potential that has thus far remained untapped. In addition to the use of games in moral research or as instruments for moral feedback, various other possible applications can be identified as well. Thus, this book can also be understood as an impetus to put into question the typical way of connecting video games and morality in terms of the danger the former poses to the latter. The unilateral approach should open up new possibilities for mutually beneficial interdisciplinary collaboration between moral researchers and game designers.

In a game
the naked heart's
exposed.*

Ovid

* «Nudaque per lusus pectora nostra patent» (Ovid 1959).

About the book

The idea for the book has its roots in two observations. First of all, the last few years have seen an increased interest within the scientific community in the importance of empirical research into morality. In particular, moral psychologists and members of other disciplines have used neuroscientific methods to investigate the "biological foundation" of moral behavior. This has in turn increased interest in other methods by which the complex phenomenon of "morality" can be adequately grasped. Secondly, an interesting pattern has appeared within the current video games market: there are more and more games that explicitly have players make "ethical choices" during the course of the game, and which integrate moral behavior into their gameplay.[1]

Based on those observations, the University of Zurich, supported by the Swiss Academy of Medical Sciences (SAMW), began a research project in late 2008 to examine the use of video games as instruments of empirical moral research. The focus of this study was actually part of a medical problem (complex behavioral changes in patients that underwent deep brain stimulation[2]), but it also was meant to be a search for new methods to adequately grasp such complex behavioral changes.

Following on the supposition that video games could be such an instrument for behavioral measurements, researchers from the Zurich University of Art (in an advanced course in game design) undertook a pilot study of "moral game mechanisms" within current video games. The study, which was completed in 2010, forms the core of this book.

1 The gameplay essentially describes the overall experience that video games make possible, and the actions with which the players can respond to challenges. Game mechanics have a large impact on the gameplay, defining all the interactions between video game and player in addition to the controls.

2 Deep brain stimulation (DBS) is a method in which regions of the brain are continuously stimulated by electric current to achieve therapeutic effects. DBS is mainly used in movement disorders such as Parkinson's disease.

Chapters 3 and 4, which were primarily produced by Florian Faller and Ulrich Götz, emerge from this pilot study. Markus Christen and Cornelius Mueller were primarily responsible for the additional chapters, 1, 2 & 5. The integration of the individual parts, the multiple revisions of the arguments, and the ultimate development of the text as a whole was a common effort on the part of all the authors. Markus Christen, moreover, was the head of the aforementioned SAMW study.

The book was originally written in German, and was translated into English by Bradley J. Thames (Visiting Assistant Professor of Philosophy at the University of St. Thomas, St. Paul, MN) and Manuela S. Thames.

The book is a first step in an ongoing research project that ultimately should lead into a concrete Serious Moral Game, the implementations of which are sketched in the book.

Zurich 2012,
Markus Christen, Florian Faller, Ulrich Götz, Cornelius Müller

1. Ethical Video Games? The Idea of a Serious Moral Game

In this introductory chapter we provide a working definition of a Serious Moral Game. First, we will explain the concept of so-called "Serious Games", that is, games in which the entertainment of the players is merely a means to other "serious" goals (acquisition of cognitive content or behavioral training, for instance). Secondly, we will show how the relationship between morality and video games has been characterized in recent years. Video games are no longer seen simply as "threats" to morality, but rather are increasingly recognized as ways to positively influence the morality of their players. Video games can lead to engagements with moral questions and therefore allow for an "ethical game". Finally, we will discuss the kinds of challenges that have to be dealt with in terms of the development of a Serious Moral Game.

Serious Games 1.1.

In the past two to three decades, video games have emerged as a significant aspect of human culture.[3] Millions of people seek out virtual realities on a daily basis by interacting with computer-generated or player-controlled avatars.[4] Thus, video games facilitate increasingly complex forms of interactions in which the players (or the controlled avatars) learn abilities, build up virtual character traits, or cooperate with other avatars in the game. These days one can even consider such games as (partial) simulations of social processes in which the relationship between the players or the behavior of computer-controlled allies or enemies follow psychological regularities, which the software recognizes and exploits (Götz et al. 2007).

Beyond playing a significant role as an aspect of human development and as part of the *Conditio Humana*, the game is an object for philosophical and anthropological study (Huizinga 2006/1938, Oerter 1998). It is therefore not surprising that there are games that have been developed and employed whose character involves more than pure entertainment. In the context of video games, these are the so-called "Serious Games" (Bergeron 2006). The qualifier "serious" clarifies an essentially distinctive feature of Serious Games relative to the majority of video games, namely, that they are intended to convey content that has significance outside of the game world rather than to simply be modes of entertainment. One finds these kinds of games used, for example, to deepen and entrench knowledge or abilities, or to influence social and personal behaviors (Iuppa & Borst 2010). Serious Games are not tied to a particular genre or technology, nor are they limited with respect to their target group or area of application. These days they are employed in numerous disci-

3 Some numbers: The video game industry grossed an estimated $61.6 billion worldwide in 2011 (EU 2010). The US alone accounted for $25 billion. In the US, 72% of households play video games, the average player is 37 years old, 42% of players are women, and 65% of users play together with other people. Source: ESA Entertainment. Software Association (http://www.theesa.com, accessed 06.01.2012).

4 The "Avatar" is the player's character within the video game.

plines, including for example medicine and health professions, education and continuing education, employee development and training, in political and social contexts, and in advertising, to name only a few (cf. Michael and Chen 2006).

Ideally, a Serious Game will be able to convey the intended content in such a way that the player can have a pleasant experience and enjoy the game.[5] Serious Games – or "Applied Games", to use an expression that conveys the fact that these games were generally developed for use in a concrete context by a particular group of people – can be defined on the basis of the following objectives:[6]

1. Games for the learning of specific content, primarily cognitive in nature (educational games in the narrow sense).
2. Games for the training of specific motor skills (e.g., ones that have to be newly acquired after a brain injury) (Eng et al. 2007, Müller et al. 2010).
3. Games that supplement psychotherapeutic treatments in addressing behavioral problems (e.g., in children and adolescents) (Brezinka et al. 2007).
4. Games that serve as measurement devices for detecting behavioral patterns in players.

The fourth objective follows a research tradition rooted in game theory and which, in its use of simple, experimental games (ultimatum game, prisoner's dilemma, etc.), is an important research method developed to examine complex psychological and social phenomena, and one that increasingly serves psychologists, economists, and sociologists (Camerer 2003, Bainbridge 2007). However, these experimental games cannot be seen as Serious Games in the sense outlined above, since their experimental purpose is on the surface, the structure of interaction between players is usually very simple (indeed for methodological reasons, as this facilitates interpretation of the results), and there is no working fictional world that is laid out. Instead they usually deal with simulations of (economic) trade relationships and the related behavioral strategies. For example, in the ultimatum game – one of the simplest "games" used with just two interacting people – Person 1 can choose to share a certain amount of money with Person 2, and Person 2 can then either accept or reject the offer. In the first case the money is distributed according to the proposal, while in the second case nobody receives any money. This scenario is used, for instance, to test for an "aversion to unfairness". In this way one can examine which distributions are seen as so unfair that one would rather forego the money entirely instead of accepting an amount that one considers too small. One can describe this situation as an "ethical test".

5 The Serious Games Initiative has adopted the following motto: "The Serious Games Initiative is focused on uses for games in exploring management and leadership challenges facing the public sector. Part of its overall charter is to help forge productive links between the electronic game industry and projects involving the use of games in education, training, health, and public policy" (see http://www.seriousgames.org/, accessed 06.17.2011).

6 This list is incomplete; it is missing, for example, games that are developed for promotional needs. For our purposes, though, this is not a concern.

A Serious Game, however, must retain the character of a game as far as possible – the game has to construct a working fictional world into which the player can immerse and thereby become intrinsically motivated to play – mostly because the player needs to reach a goal that is predetermined by the game. In order for this so-called "immersion" to be attained, one must take into consideration the fundamental nature of the (video) game, such that the (didactic) content can be imparted through appropriate game elements in an attractive virtual environment or through exciting gameplay. Moreover, one should be concerned to portray the game first and foremost as a voluntary activity, one that constructs an imaginary world and requires the full attention of the user. Furthermore, a video game is limited in terms of time and space, follows (its own) established rules and goals, and in addition often contains a social component in which several players participate or even compete with each other (Michael and Chen 2006). Fundamentally, it is the right combination of narrative, participatory, and interactive elements needed for a challenging game play that gives the player a certain amount of room for free play. If these features are missing, or are obstructed by other factors foreign to the game, the subjective experiences of challenge, emotional involvement, and enjoyment will be excluded from the very beginning.

The game fiction forms an inherent part of the Serious Game. In con-

trast to so-called "learning games" or pure simulations, which also use game-specific elements or are, in a technical sense, virtual reality machines (e.g. flight simulators), a key factor for success in this medium lies in a balanced combination of game elements and the content to be communicated (cf. Suter 2007:33) . For example, the educational content should not force the game content so much into the background that the enjoyment of the game suffers, or else the whole game might end up being perceived as didactic "finger-wagging". This is especially important to consider when the topic of a Serious Game has to do with moral questions.

Serious Games that can be used to collect research data or that are used in applied diagnostics should ultimately function as "valid tests," and therefore need to meet defined standards. These special requirements thereby raise special questions regarding the conception and design of such games. In this respect, it is fundamentally important to determine the extent to which the behavior of a player in a fictional scenario can provide information about the player himself or herself (e.g. about psychological patterns that are also displayed in everyday life), since a game permits certain behaviors that cannot be practiced in everyday life. This is a particular problem when one hopes to understand a complex phenomenon such as morality through the use of a game. Such is the case, for example, when a first-person shooter game involves "immoral behavior" in the sense of destroying the enemy: this is hardly a standard by which to measure the morality of the player, notwithstanding the fact that the enemy in those games generally represents the moral evil, and its destruction is quite a legitimate goal.

The idea that games can be understood as "instruments of measurement" must first of all confront the problem of the fictional world, and secondly the transferability of the actions and reactions that are observed in the fictional world. However, a basic objection – that game-behavior does not generate information about the psychology of the player at all, and therefore that a Serious Game cannot function as a "testing instrument" – does not seem to us to be valid for several reasons. The first has to do with the massive and increasingly nuanced debate over whether video games, especially those with violent content, have a negative impact on the real-world behavior of the players. Without even needing to take a stand here, one point is clear: by accepting the possibility that video games can have an impact on (negative) behavioral dispositions, one implicitly supports the possibility that the behavior of the players during the game can reveal something about the behavioral disposition of the players in the real world.

Secondly, we should recall the anthropological significance of games, namely that as *homo ludens*, games play an essential role in the socialization of humans and in facilitating the basic experiences of freedom and creativity. This is expressed, for instance, in Friedrich Schiller's famous words, "...and he [Man] is only fully human when he plays" (Schiller 1960:618). Such an understanding of a game, which has a lot to recommend it (Fritz 2004), again implies the possibility that the behavior of a player within a game can reveal something about the disposition of the player in the real world.

Finally, there is empirical evidence favoring the possibility the behavior of players during the game attests to their behavioral dispositions. Even the very simple context of an economic experiment – which, as we explained above, should not be regarded as a Serious Game – shows that players take the game very seriously despite the "artificial framework" of such experiments. They can, for example, display strong emotional reactions depending on how the game is played out (perhaps if they feel cheated in an ultimatum game). It is just such reactions that form the subject of this research. And although there is very little research involving complex video games, initial results show that game behavior can enable predictions regarding performance in subsequent psychological tests. Narvaez, et al. (2008) , for instance, have shown that the playing of a "prosocial computer game" has a positive impact on subsequent performance in a psychological test.

If we therefore assume that the behavior of players in virtual realities allows us, at least in principle, to make statements about their behavior in actual reality, one must empirically investigate the interplay between virtual and actual reality. This is a topic of research on the effects of media. A well-developed approach here is the constructivist transference model developed by Fritz (Fritz 2005, Bigl 2009) . Among other things, this model attempts to describe how knowledge is transferred

from one context or situation to another, vis-à-vis the real world and game worlds. Fritz includes here the adaptation to the new context of each respective world (transformation). With respect to our topic, we would have to consider what moral preconceptions a subject brings to a virtual game world, the manners and modes by which he interacts with the morally significant elements that appear in that world, and how the outcomes of these interactions can be transferred into the real world, i.e., which transference processes they are subjected to. Fritz also assumes that in this so-called intermodal transfer between the virtual and real life-world, the schemata that operate in one world can be transferred to the other.[7]

One prerequisite for this transference process is a performance of "abstraction" by the brain, the outcome of which is the harmonization of new impressions with neural patterns that have already been developed. Fritz continues, "The stimulus only makes an impression in so far as it fits with the structures that are already in the brain. The stimulus will be an impulse that leaves its impression in the neural network in a specific way, and it is only in this transformed form, as "woven" into that which is already there, that it continues to have an effect. These continued effects include the activation, development, and strengthening of neurological structures, and their integration with other schemata." In this sense Fritz is concerned to investigate the course by which stimuli and schemata come into alignment. "It's through schemata that different patterns of experience become likened to each other, comparable, and therefore transferable. The more abstractly the schemata are structured, the greater seems to be their capacity for transference." Various factors are crucial for a successful transference. Emotions that are triggered during or through the game also can form patters of behavior that flow from the game into reality, wherein they are tried out. This presupposes a readiness for the acceptance of this transference on the part of the individual. Fritz himself mentions the so-called "ethical-moral transference" as a form of this,

7 An example of the transfer from the real world to the virtual might be driving a car. Players can seamlessly transfer the schemata involved in driving a car in the real world to the virtual world of a driving game. This can happen despite the fact that the player is fully aware that the driving is purely virtual and the schemata involved real driving are not being fully actualized.

but doesn't spell this out further. The transference model supports the overall thesis that through Serious Moral Games effects in the players can really be achieved.[8]

To sum up, one can say in the end that conclusions about real world behavioral dispositions can be drawn from the behavior of players in game scenarios, but reaching such conclusions is methodologically demanding. The more complex the behavioral disposition is that one seeks to detect – and morality is doubtless one of the most difficult phenomena to be detected – the more clearly one will need to show how to respond to a problem that games open up, namely the opportunity to engage in otherwise "forbidden" behaviors. However, the potential of this methodology appears to be great. Since video games, in contrast to the experimental games previously in use, open up a far more complex (and yet controllable) parameter space, the prospect of employing them as devices for measuring complex behaviors, such as moral behavior, is enticing. This is probably the best approach to real-world observational studies that, without a defined environment and long periods of time, could otherwise only be undertaken with significant difficulty. In a virtual world one can bring about an engagement with a predefined set of rules that can be established in terms of their relation to those of the real world.

8 For a discussion of a relevant learning theory for serious games, see also http://gamestudies.typepad.com/game_studies/2009/01/eine-theorie-des-digital-game-based-learning-teil-3-fünf-kernaussagen.html (accessed 06.18.2011).

1.2 Games and Morality

Before giving a precise definition of what we mean by a Serious Moral Game, we will briefly examine the relationship between morality and video games in general. In the past, this was only considered from a limited perspective. It was common to debate whether certain games (such as first-person shooters) have a negative impact on the moral development of adolescents.[9] From such a perspective, reports on such media were perfunctory and sensationalized, and a direct link was posited as to their impact on existing social norms (e.g. "value systems") as well as the individual psyche. This in itself seemed to lead to a rather critical moral judgment about video games, even though from a scientific perspective such a "general danger to adolescents from the consumption of violence in new media hardly seems to exist" (Bodmer 2009:10; Steiner 2009: 35). The data are inconsistent, and there is no reliable evidence that video games are the cause of a propensity toward violence. Studies that emphasize relevant correlations (Craig et al. 2007) quite possibly indicate a causal connection in the reverse (that is, violent youth tend to play such games) or describe an epiphenomenon (that is, the excessive use of violent games tends to occur in socially difficult environments, wherein it's really the latter, and not the game, that is the cause of a propensity toward violence). Any mention of, let alone

9 An example is the rather critical media coverage of the first LAN-Party [an event in which participants play multi-player games along an internal network – trans.] held at the German Parliament on 23 February 2011 to raise awareness about video games among German politicians. The headline on the Tagesschau news service's website read, "Representatives Shooting in the House" [Ballernde Volksvertreter im Hohen Haus] (Neuroth 2011). And prior to the day in which they were to be given instructions and demonstrations on how to play the games, the CDU's interior affairs spokesperson, Hans-Peter Uhl, was quoted as preferring "that these killing games hadn't been shown – at least not uncritically as if they were just a game like any other", since video games such as Counter Strike offend against basic values. Uhl maintains, "these kinds of games arouse people's ugliest instincts and shouldn't be made available to youth" (quoted in Neuroth 2011). We leave the interpretation of "basic values" and their relation to "ugly instincts" to the reader. Also, of the 28 games in various genres that were presented at this event, no one seemed to find it worth mentioning that two first-person shooter games were included in the scheduled repertoire.

any reflective discourse over the kinds of contextual factors that get included in the analysis and subsequent evaluation of a potential risk of danger in (violent) video games, was only brief if it even occurred at all. Although the effects of media "always [develop] in connection with the interlocking elements of social, personal, and medial factors," the supposedly direct influence of this medium was singled out for criticism. Experts also warned that the debate over violence in video games occluded far more critical issues, such as the risk of suicide in adolescents (Kutner & Olson 2008).

The idea that there is a quasi-causal relationship between the medium, the effect, and behavior "in the real world" is persistent. Moreover, the target of these critiques is almost always game content that is deemed to have morally objectionable influences. Only in recent times has it been admitted that video games can also have a sustained positive effect by conveying morally acceptable values, though it has always been acknowledged that games can have an educational function; the classic board game "Ludo" is an example of this insofar as one of its themes is how one deals with defeat. (Translator's note: This is more obvious in the German title of the game, "Mensch ärgere Dich nicht," which essentially means, "don't be a sore loser").

The increasing interest in creating "prosocial" video games shows up in many ways. Consider, for example, such initiatives as the "Good Play Project" launched in 2006 through Harvard University,[10] which was created to explore this sort of potential in video games. Some authors strongly maintain that video games – in contrast to other instruments of moral education like stories or films – are particularly well suited for such purposes in that such games do not merely convey content; rather, the rules on which the games are based allow the player to act (within the established framework of the game) (Koo & Seider 2010), and thus interact, rather than simply absorb.

Both instruments (content and rules) have to be employed, which means it would be insufficient to simply replace the "bad" content in

10 See also http://www.goodworkproject.org/research/goodplay (accessed 04.15.2011).

a video game (e.g., destroy the enemy) with "good" content (e.g., help computer-controlled avatars) if one wants to facilitate prosocial behavior. Every game defines to some extent a "game morality" through its rules, and one approach would consist in examining the extent to which the rules of a game are fair and not just outlines of the game's characters or its plotline (Koo & Seider 2010).

This idea of a "prosocial use" of video games is accompanied by a noteworthy development in the game market. There have been for some time now games on the market in which the player has to develop explicitly moral qualities (e.g. to be cooperative) to succeed.[11] The associated "socially conscious artificial intelligence" aspect of a game engine[12] has meanwhile become quite common in game design. Examples of such behaviors include (Götz et al. 2007):

- taking responsibility for other game characters
- feeling empathy for other game characters
- a game flow that responds to the behavior of the players (e.g. assertive versus cautious)

A lot of current video games promote themselves with the claim that they give the players the option to make ethical choices and that these actions are an important element in the gameplay. This can be seen as a response to the criticism of violent games with which the game industry is constantly faced. On the other hand, the claim can be seen as a marketing tool that that targets the consumer, promising him or her a certain game experience. Whether they're part of a discursive strategy or whether they're a selling point, the so-called "moral choices"[13] are a common topic in current discussions over games - in advertising, game reviews, forums, or blogs. These non-scientific texts are primarily write-ups from players about their experiences, or texts aimed at the community of players, and their descriptions of the ethical choices are generally not discussions over the extent to which the "moral choices" really represent moral behavior, but whether they contribute to the enjoyment or desirability of the game experience.

Besides the large number of such texts coming out of game reviews or forums, there are now occasional scientific publications that take on the theme of "moral choices" and illuminate the ethical dimension of the game action. Since these works are not usually in the field of game studies (e.g. ludology or narratology) or game design, there is little attention paid to the actual game mechanisms. The possibility of moral decisions is not usually discussed in terms of their possible realization in a video game, but in the context of cultural analysis. For example, Marcus Schulzke considers the game *Fallout* 3 (Bethesda Softworks, 2008) from the perspective of a political scientist (Schulzke 2010).

This is also true of "The Ethics of Computer Games" by Miguel Sicart, which is one of the most comprehensive works on the theme of "video games and ethical game conduct". The author himself notes that this work is not concerned with the concrete design of a game,[14] and so his analysis is not focused on the respective game actions that allow the player to make ethical choices. For Sicart, the concern is with the

11 The first video game that was marketed as "involving moral choices" was the adventure game I Have No Mouth And I Must Scream, released in 1995 by Cyberdreams (Švelch 2010).

12 Game engines are basically the programs that govern the video games and control their actual gameplay. In addition to implementing the rules, they put commonly used tools at the disposal of game developers (e.g. for developing the game's graphics, controls, etc.).

13 It should be noted that in English the terms "moral" and "ethical" are often used interchangeably. In German, however, an "ethical decision" includes reflection (however that transpires) or deliberation on the issue, whereas a "moral decision" is a decision guided by a (recognized) moral standard. The actual decision can be the same in both cases, but the idea of an "ethical decision" also carries with it the sense that one needs to have reflected on the particular problem (as a requirement of the game, for instance; see also section 2.1.).

14 "Again, this is not a textbook, nor a self-help book: this book is a philosophical approach to computer games and the ethics that inform them, with no intention of being immediately applicable to design or game production" (Sicart 2009: 223).

games themselves, which he describes as "designed ethical systems",[15] rather than the particular mechanisms for representing moral behavior.[16] Other contributions question the ethical dimension of the game plot overall, but not in relation to the behavior of the player within the game. (Morgan Luck asks, for instance, whether from an ethical point of view a virtual murder should be regarded differently than a virtual nude pedophile.) (Cf. Luck 2008).

One of the first comprehensive treatments was "Ethics and Game Design" by Karen Schrier and David Gibson. This extensive collection of essays, published in 2010, is directed at an audience of researchers as well as teachers, and it is devoted to the topic of how video games can be used in moral education and learning, as its subtitle "Teaching Values through Play" attests. Here one can find one of the first attempts to relate moral aspects of the content and gameplay within video games to theories of moral behavior, such as the four-component model of James Rest (1986). This work is especially helpful in showing that the debates over the relation between video games and morality has become multifaceted, and is no longer simply dominated by concern over the potential moral danger for players that video games present.

15 "Computer games are designed objects that create a certain experience largely determined by the way the system is designed. A game can be described as a code (a designed system for ludic interaction) that creates an architectural experience with users that engage in a power relation. Games can embed ethical values in their code, values that are projected in the architecture towards the user(s). Therefore, the act of creating and crafting the code of a game is a moral act. The values embedded in the system are a crucial element in the ethics of game design" (Sicart 2005b: 10–11).

16 "In fewer words: to design games is a moral activity. The values consciously or unconsciously embedded in the design determine the basics of the ethics of the game, and cue the experience and affordances of the user(s) of the system. Games are ethical if and because their design is a moral system, and crafting those systems is or can be a moral action" (Sicart 2005b: 11).

Serious Moral Games

1.3.

As the previous discussion has shown, the conceptual conditions for a Serious Moral Game include that of being a game that enables one to determine the "morality" of players, as well as one that might have an effect on their behavior outside of the game world. Naturally these conditions raise methodical questions, whose answers form the prerequisites for such a project:

1. What does one mean by the idea of "morality"? The exact definition of morality is tied to a number of conditions that must be explicated. In a general sense, "morality" describes the social norms and values that constitute the standard for "morally correct behavior". This first condition raises further questions: What sort of norm is "moral"? To what extent are such norms bound to cultural and historical frameworks? What modes of justification do moral norms have (e.g. when moral norms contradict each other, when do we thereby have a genuine dilemma?). These questions indicate the kinds of preconditions that have to be determined as part of the development of Serious Moral Games (for instance, is moral relativism accepted?), which then establishes the specific sort of content to be understood via a Serious Moral Game.

2. What model of moral agency should apply? If the "morality" of a player is to be understood or even changed through a Serious Moral Game, then there has to be a grasp of the psychological mechanisms on which morality depends. Otherwise it would be unclear which approaches would really address the player's basic starting points. By the term "moral agency" or "moral agent" we are referring in a general sense to the "subject of moral action". The psychological model of a moral agent that will be presented later on is that of "moral intelligence" (Tanner & Christen 2013). Without some such model one cannot explain why a Serious Moral Game should function at all. Thus, such a model refers to the functional relationship of the various faculties necessary for moral behavior.

3. Which game mechanisms are available to make determinations about the morality of the players? Assuming the concepts of morality and moral agency are sufficiently clarified, we now have to examine the game mechanisms that are available for the creation of a Serious Moral Game. This relates to the possible content of the game, to the rules, and finally to the gameplay – that is, the structure that opens up the space of possibility, and therewith determines the progression of the game and, especially, the game experience. In the course of the concrete game design, it will then be necessary to establish how such elements are coordinated if a viable Serious Moral Game can be developed.

We should remark at this point that the question, "how do you measure 'morality' with a game?" has to be answered first before one can create a "pro-social" video game, that is, a game that influences the morality of the players in one form or another. This is because such an answer (which is usually just implicit) is required if one is to have any kind of indicator for assessing the effect at all. One has to first gain an understanding of the extent to which the game mechanisms have (or can have) an effect on the moral agency of the player – and this understanding implies, de facto, that one is capable of bringing the game behavior and the morality of the player into a more or less precisely quantifiable relation.

At this point, then, we can establish an initial working definition: A Serious Moral Game is a game by which a moral agent, through his/her behavior therein, discloses to him-/herself or to a third party information about his/her moral intelligence (that psychological model that circumscribes the abilities and moral compass of a subject of moral action). To reach this goal, the concept of morality needs to be clarified (and thus the moral content to be understood through the game be determined), a model describing the moral competence of the player needs to be available, as well as a corresponding set of game mechanisms. In the following chapter the first two requirements will be discussed. Chapter 3 will then give an overview of the game mechanisms already in use that can serve as building blocks or patterns for the development of a Serious Moral Game.

2. The Morality of the Players: A Conceptual Framework

If one wants to be able to measure and communicate moral behavior, one has to determine the appropriate methodological approach. In this chapter we will lay out the general framework on which to base a Serious Moral Game. The first step will be to lay the theoretical ground in the notion of "moral agency" – the ability of a subject to guide his or her behavior according to moral considerations. The second step will be to introduce a skill-based model of moral agency – moral intelligence – which brings together the central findings of contemporary empirical research on morality, particularly in moral psychology. In the third section we will provide a brief overview of the current methods for ascertaining moral agency and its associated qualities. We will finally consider what the starting points for a Serious Moral Game can be on the basis of this conceptual framework.

2.1. The Theoretical Foundation: Morality and Moral Agency

In its everyday sense, the term "morality" is used to indicate various sorts of behavior patterns and situations, but at its core is always some idea of an "ought", some understanding of how one ought or ought not behave. One can regard such ought claims positively or critically. Thus, for instance, there is the "moralist" whose emphasis on "oughts" is exaggerated and even hypocritical; on the other hand you have the proverbial "moral of the story" (Moral der Geschicht) expressing the lesson to be drawn out of the experience of the story. A scientific understanding of morality takes its direction from this everyday intuition. In general, the term "morality" indicates the set of norms and values associated with good behavior and virtuous character that are recognized by the community as right and important, and according to which people should orient their lives. The term "right" expresses the way in which these norms are grounded in reasons. The development and justification of such a system is the responsibility of ethics, a discipline of practical philosophy. The term "important" indicates that not all norms are moral; for instance, some might be mere conventions with only minor force, though such a distinction between moral and other sorts of norms is itself controversial.

This formal account of the concepts of "morality" (a structured set of norms, values and virtues; i.e., a moral system) and "ethics" (systematic reflection on the basic correctness and importance of a moral system) does not yet establish much. The controversy comes when we turn to the content of morality and its grounds. This content is largely a product of cultural and historical contingencies that have given rise to various moral systems in different societies and times. Another problematic topic is whether or not there are any universally valid norms. The so-called relativism debate addresses both empirical questions (have

there ever been such norms?) and normative ones (should there ever be such norms?). This debate is just one of many that have occupied moral philosophy for centuries, and we don't intend to discuss them any further here. But a difficulty arises given the ambiguity of the term "moral," which one can understand as purely descriptive (e.g., the expression "X is moral" means that X has a reference in some moral system), but also as normative (X indicates what is morally right). These two different meanings of "moral" will have to be distinguished if one is to engage in systematic reflection about morality.

Morality gains its fullest sense when the contents of a moral system come to orient one's actions. And here we come to the concept of "moral agency" concerning which, again, we will first need to give a formal account. "Agency" is a concept within the theory of action that distinguishes a certain class of behaviors. At a general level, agency should be understood as an ability of entity to take notice of the environment, to make choices based on those perceptions and their internal states, and to be able to have a practical effect on the world through one's actions, without this process being controlled in any substantial way from the outside. Such an entity is called agent, to which philosophical action theory commonly attributes to the following abilities: autonomy and authorship, an orientation toward ends and goals that are grounded in certain values of the agent, interaction with other agents, the ability to react to short-term changes in the surrounding world, and adaptability, which is the receptivity to long-term changes in the internal structure of the agent as part of a learning process.[17] Moral agency can thus be considered a subclass of agency, one that involves "morally" significant aspects of perception, choice, and action.

From a philosophical perspective, the structure of moral agency can be divided into four components (Christen 2010) : The first component is the sensory experience of a spatiotemporal event (a perception); in the context of an experiment it could be, for example, a moral stimulus.

17 In other areas of research the requirements for agency are weaker. In "agent-based modeling" especially, the term refers to programmed units that interact mostly with each other according to a defined set of rules. This approach is used to investigate many different sorts of issues, such as the results of different strategies (rule sets), the spatial distribution of agents, etc. (Bonabeau 2002).

The second component is the *decision making* – the process by which the moral agent produces a response to this experience. In psychological terms the process can be intentional or automatic, both of which involve (acquired) predispositions of the moral agent that restrict the range of possible behaviors that can follow from the sensory registration of the moral stimulus. The third component is the effects of the agent on the world that follow from the action-causing and from the action-guiding components associated with *decision making*. Finally, the fourth component worth mentioning is the network of reasons that the moral agent gives (or would give if asked) as justification for her behavior. This structure of moral agency is not a psychological model with which you can make claims about the behavior of the moral agent. It simply makes clear that that the agency of an entity with respect to what is "morally right" and "morally wrong" – whether we're referring to a single person or, say, an institution – involves components of perception, choice, behavior, and justifications.

Philosophical ethics has focused primarily on this last component. As such, decision-making with regard to moral questions often gets described as a form of behavior that takes place within the logical "space of reasons" (Sellars 1956). The argument is thus that moral (or morally good) behavior ultimately has to do with the reasons consciously available to the moral agent, and indeed this is what makes actions "moral" at all. If the motives are right (which means the motives are justified according to a normative theory that is regarded as "correct"), then the particular actions are morally good (Schaber, 2011). Closely associated with this idea is the philosophical position called internalism,[18] which maintains that moral judgments must be motivating in and of themselves with respect to certain behaviors; otherwise the judgments cannot be called "moral". Such conceptual debates don't take us very far toward the present goal, however. If one wants to analyze and even change the moral orientation of an agent, one needs a (psychological) model that can comprehend the mechanisms of moral behavior with more precision. With respect to the philosophical debates, such a model should certainly take account of the fact that reasons, in the sense of

18 Cf. the entry for "moral motivation" in the Stanford Encyclopedia of Philosophy: http://plato.stanford.edu/entries/moral-motivation (accessed on 07/07/2011).

certain values, norms, or other moral convictions, are significant for the moral agent; but one cannot expect that the agent always orients his or her behavior according to some sophisticated system of reasons. From a psychological perspective it also makes sense to see the motivational aspect separately, and thus not to be committed to the kind of internalism whereby moral convictions that are not motivating are not regarded as moral convictions at all.

Psychological research on morality has accelerated in the last few years, and has worked out some positions rather at odds with the philosophical understanding of moral agency. For instance, it's been argued that moral behavior is the product of unconscious processes, with the agent producing a justification *ex post facto* (if the situation calls for one) (Haidt 2001) . This observation might be dependent on the kind of decision that has to be made, since elaborate and complex reasons certainly do not play much of a role in a lot of everyday moral decisions. Therefore the challenge lies in giving reasons an appropriate place in a psychological model of moral agency as well as in the relevant experimental settings.

Before presenting the psychological model of the moral agent labeled "Moral Intelligence", another distinction should be noted. In addition to its structure, moral agency can also be assessed in terms of its areas of application. Correspondingly, empirical studies can be performed in three ways. First, a single moral agent can be the subject of the study. This is the usual procedure, for example, in brain imaging experiments in which a subject is presented with moral dilemmas in order to find, e.g., neural correlates of moral decision-making processes. Secondly, the object of investigation might be a group of moral agents interacting directly with each other. "Direct interaction" means here that the participating subjects have regular interaction with each other over a long period of time, so that relationships can develop in which individual agents gain a reputation among, and develop opinions about, the other agents. Thirdly, one can investigate the interaction of (large) groups of moral agents organized as an institution; that is, institutions

can also be understood as moral agents.[19] Many issues of practical ethics fall within this range and can be studied using sociological methods or through economic experiments. Empirical studies of moral agency can thus be classified in terms of these two dimensions, structure and area of application (Christen 2010).

The enormous range of possible questions that are part of an empirical study of moral agency has by no means been exhaustively covered here. One can get a sense of this through an analysis of the following sentence, which outlines the subjects of empirical moral research (Christen 2009):

X is a moral agent on the basis of certain abilities {Yn} exercised in a certain context K.

The complexity involved in developing a theory of moral agency is revealed by the fact that every underlined part presents follow up questions:

X: Which entity X should be regarded as a moral agent? This question has dimensions that are ontogenetic (e.g., is a newborn already a moral agent?), phylogenetic (e.g., are some primates moral agents?), pathological (e.g., are those with dementia moral agents?) and quantitative (are collectives moral agents?).

Abilities: Which abilities {Yn} are to be regarded as necessary and/or sufficient? To what extent is the agent already disposed with respect to these abilities, and to what extent can he develop them himself (or with the help of others, as through moral education)? In what way can certain abilities be compensated for by others? What are the biological mechanisms that enable these abilities?

Context: What are the structural and temporal components of the context in which a moral agent acts? One would have to discuss, for example, the compulsory nature of a particular situation or the origins of the behavioral context.

Morality: How should the morality of a particular situation be charac-

19 This brings up questions concerning the extent to which collectives can be understood as subjects (and thereby be considered responsible for certain actions, for instance). This is a debate that we won't pursue here.

terized (e.g. what norms are involved)? To what extent is X aware of or responsive to those features? How much justification for the particular action is required of X? To what extent is "normative creativity" allowed; that is, to what extent can X introduce new moral features (norms, etc.)?

Agency: When does behavior become action? How much significance does the concept of free will have here?

In an empirical context such a wide range of questions can of course never be addressed all at once. Empirical studies need to fix some of these "parameters" in order to address others. Generally studies will establish "X" (e.g., the subjects will be healthy grown ups, people with specific brain damage, etc.) and "morality" (e.g. by determining the moral stimulus), with "{Yn}" and "agent" (as in, e.g., the concrete behavior) as the variables. Whether the parameter "context" is defined or taken as a variable depends on the study.

It should be acknowledged, finally, that from the standpoint of a philosophical ethics the empirical study of moral agency needs further clarification. This is particularly the case with respect to the perspective that the study takes (observation vs. self observation), the concept of morality (a narrow or broad understanding of morality), the structure of the affective moral reactions, and the meaning of rationality. These issues will not be addressed any further here (see Fischer & Gruden 2010). Our remarks have tried to make it clear, however, that in a concrete engagement with morality – and the creation of a Serious Moral Game is such an engagement – determining the content is unavoidable. One of these determinations has to do with the psychological model of moral agency that will now be introduced.

The Psychological Model: Moral Intelligence

2.2.

If a Serious Moral Game is to be able to measure the morality of the players, it must be embedded in a framework that has conceptual and empirical support. This can be accomplished through a certain model informed by an account of the psychological mechanisms of moral agency, and further refined through the theory of "Moral Intelligence". Roughly put, moral intelligence refers to the set of skills the moral agent needs in order to align her behavior with the ends she has set for herself. It is thus a skill-based conception of morality or moral behavior, analogous to the concept of "emotional intelligence" that describes the ability to deal with emotions.

The concept of moral intelligence integrates the findings of (moral-) psychological research into a unified model. As such it enters an area with a rather long tradition. The question of what makes people (better) moral subjects has been a driving concern of moral philosophy since its inception. A prime example is Aristotle's Nicomachean Ethics, in which Aristotle is supposedly describing to his son Nikomachos how to become a good human being and how to lead a happy life (Aristotle 2006). For many centuries the content of morality revolved mainly around such questions, for example the question of which virtues human beings should cultivate to become better moral subjects. With the appearance of psychology and other areas of enquiry, the questions increasingly become concerned with which (psychological) skills are actually necessary for moral behavior, and the extent to which such skills are influenced by biological factors.[20]

20 These questions are embedded in numerous areas of research, such as the search for a neurobiological "basics" of morality, the evolutionary roots of morality, and the implications of such research for psychopathology and criminology (e.g. research on psychopaths; cf. the contributions in Fischer & Gruden in 2010 and Sinnott-Armstrong 2008).

In the last few decades, the work of Jean Piaget and Lawrence Kohlberg on the ontogenesis of human moral capacities has been central to developmental and cognitive psychology. These studies focused on the capacity to make moral choices, and led, among other things, to Kohlberg's well-known theory of the stages of moral development (1981). His approach has been criticized within recent moral psychology as being too narrow. Among others, James Rest presents a model of moral behavior consisting of four components, "moral sensibility", "moral judgment" (or: decision-making), "moral motivation" and "moral action", and is supposed to describe the logical process of moral behavior (Rest 1986). Other researchers focus on the intuitive, quasi-"automatic" processes that characterize moral behavior to a larger extent than had hitherto been supposed (Haidt 2001). This and other research shows an increasing orientation toward the question of which skills or competencies underlie human moral capacities, and how those are grounded in or influenced by different psychological processes (e.g. as part of the dual-process approach) (Smith & DeCoster 2000).

Moral intelligence is a model for the integration of such research. It is a concept originally introduced by Doug Lennick and Fred Kiel to describe and explain desirable economic leadership qualities. Tanner's and Christen's approach is based on a psychological model that describes the process logic of moral behavior along with the associated underlying psychological processes, as well the way in which implicit and explicit knowledge of morality and its justifications are included (for an overview see fig. 1.a). These elements underlie the essential components of moral intelligence (fig. 1.b), which are as follows:

Moral compass: This metaphor encompasses the set of moral schemata whose content is responsible for orienting the subject's behavior (Narvaez et al. 2006). As such it is concerned with mental representations of both declarative and procedural knowledge, each of which is accessible to the subject in varying degrees (for the notion of the 'accessibility' of cognitive schemata, see Higgins 1996).

Moral Commitment: The ability to activate or sustain a motivation for the inclusion of moral considerations in the process of perception, decision-making, and action. In contrast to the typical process logic of moral behavior (perception → decision → motivation → action, Rest 1086) moral commitment is a capacity that influences all stages of the process, and in particular provides a motivational force to the semantic content of the moral compass.[21]

Moral sensibility: The ability to recognize morally salient aspects of a particular situation. The relevance of moral sensibility is obvious: if such moral aspects of a situation are not recognized, there is no cause to be concerned with the question of right actions.

Moral problem solving: The ability to bring the morally salient features of a situation to the decision making process, and depending on the degree of conflict involved (e.g., if the problem has the structure of a dilemma) to arrive at a decision consistent with the subject's particular moral compass.

Moral resoluteness: The ability to carry out the decision that is made despite, inter alia, external resistance and barriers.

The metaphor of the moral compass, which was introduced by Lennick and Kiel, describes the system of moral norms, convictions, and values that a person has. Such moral norms have several functions: they focus one's attention, provide a basis for the comparison and the evaluation of options, and control actions by way of preemptory self-sanctions (Bandura 1986/1991). The content of the moral compass may also be evaluated emotionally, which is to say that they are linked to emotions; these in turn affect how moral issues are perceived and thus the decisions and actions based thereon. "Gut feelings", for example, can be considered an additional source of information for properly evaluating the relative merits of different options (Schwarz & Clore 1083, Haidt 2001). For the content of the moral compass to be able to carry out these functions, it is necessarily that the content not just be present, but also be accessible (Higgins 1996). Whether the effects of such content on the decision-making process is more automatic or more deliberate depends on the degree to which that content is accessible. Formally, the model conceives of the content of the moral compass as moral schemata, which can be different knowledge structures (e.g. opinions, values,

21 For example, research on psychopaths suggests that, from a psychological point of view, one can distinguish between the cognitive understanding of a moral argument, and the motivation for action that follows from such an argument. See, e.g. Blair 1995.

Fig. 1a:

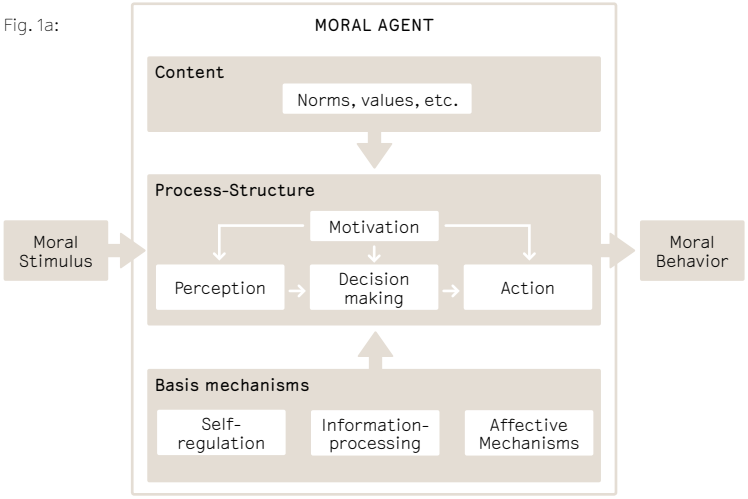

Fig. 1b:

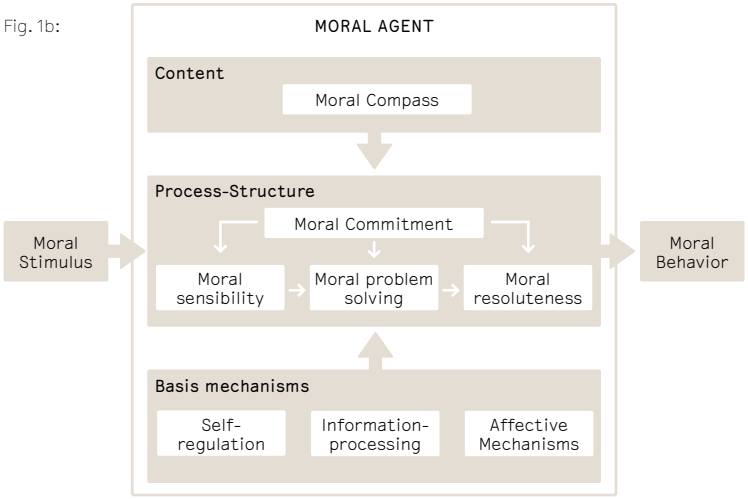

Fig. 1: Overview of the concept of moral intelligence:
1a) Process logic of moral action, adapted from rest (1986);
1b) Components of moral intelligence, adapted from Tanner & Christen (2013).

ethical principles, religious norms, personal goals, subjective beliefs, personality traits, habits; Jordan et al. 2004). Since human beings acquire moral contents during the course of their socialization, it is to be expected that moral compasses vary among individuals (Aquino & Reed 2002, Lapsely & Narvaez 2004).

Immoral behavior is generally not an expression of a lack of knowledge of what should have been done in a certain situation, but rather results from a lack of motivation to exercise one's knowledge of what is right. Accordingly, the moral commitment component of the model is connected to the process element "motivation", and plays a central role in Tanner and Christen's model. It involves the capacity to uphold the demands of morality throughout this entire process and to align one's cognitions, decisions, and actions with one's moral ends. Moral commitment is to some extent the bridge between the moral compass and the other components of moral intelligence, and expresses the will to apply the contents of the moral compass. It is only in recent years that this notion of willpower has become a focus of interest in psychological research (Baumeister 1998); in particular, the focus has been on the extent to which one can maintain one's willpower in the face of certain temptations, and the extent to which it gets weakened through mental fatigue (e.g. Mead et al. 2009). Furthermore, for some individuals it is to be expected that particular central values (e.g., the so-called "protected values", Tanner 2008) are quasi-"automatically" integrated in the decision-making process. In this way, what other researchers would consider to be automatic processes with respect to certain moral decisions should be understood, according to this model, as an expression of moral duties that in some way have become ingrained.

Moral sensibility has increasingly become a focus of (moral-) psychological research since the 1980's. Although several researchers have pointed out that moral sensibility is a precondition to even initiate moral decision making (e.g. Clarkeburn 2002, Sparks & Hunt 1998), past research focused mainly on the study and development of instruments for analyzing moral decision making, and so the moral sensibility component remained neglected for a long time. Generally, moral sensibility indicates an ability to recognize whether a specific situation that one is observing (a "moral stimulus") exhibits any morally relevant aspects.

This includes the ability to recognize the effects on others' well being that actions have in certain situations, and whether, because of that, moral standards or professional codes of conduct can be broken. Also included is the ability to appreciate different perspectives and view points. Moral sensibility thus also consists of the capacity for empathy and for adopting other perspectives. Previous empirical studies suggest that individuals differ substantially with respect to moral sensibility (Jordan 209, Tirri & Nokelaien 2007). The approach of moral intelligence suggests that for people with a strong moral commitment, moral concepts are largely accessible by memory.

Hence it is expected of people with high moral abilities that they recognize moral aspects faster, they remember them better, and are more motivated to reflect on them. Therefore moral sensitivity does not just include an intuitive process (the immediate recognition of a morally salient aspect in a situation), but also a deliberative process (a directed attention to relevant moral features).

As soon as a moral problem is identified (along with the people and other aspects that are connected with it), the problem has to be overcome. This requires a competence in moral problem solving. One has to find out what should be done, taking into account one's own values as well as different options and their consequences. Some decision contexts have a dilemmatic structure, which means that each decision leads to a violation of some value or norm considered important. Finally, many moral questions are badly defined, which means it is not very clear what the alternatives really are and which consequences one should expect. Because of these difficulties and the limited resources of the moral agent, she will not be able to make completely rational decisions, but rather will have to search for an acceptable solution among the available alternatives (Gigerenzer et al. 1999, Simon 1955). Moral problem solving thus involves the ability to find a satisfactory solution in accordance with the moral standards of the agent. Appropriately, not only is it important in moral problem solving to identify or come up with different options, but also to recognize the relevant values and norms and include them in the appropriate ways. The extent to which this happens deliberately or automatically depends on the specific problem as well as the "moral expertise" of the particular agent.

Once the "right" option is recognized in the decision-making process, it now has to be translated into action. At the same time multiple external factors can influence this transfer, make it difficult, or even prevent it. The chosen behavior can, for example, conflict with the goals of others, it can involve high (social) costs, or it might not be compatible with the so-called "ethical climate" of a specific environment (Trevino et al. 1998). The ability to consistently abide by those behaviors recognized as right, despite such obstacles, is what the model describes as moral resoluteness. As with the other skills, moral resoluteness may be to some extent automatic (i.e., it gets displayed through consistent moral behavior with respect to certain situations and contents), and it can also be under deliberate control. Moreover, this component of moral intelligence is influenced by emotions – positively when an action is successfully carried out (e.g. Stolz), but also negatively (e.g. Scham) in the case of moral failure (Carver & Scheier 1990, Sekerka & Bagozzi 2007). Moral resoluteness, therefore, counteracts moral hypocrisy in which certain moral standards are trumpeted without the corresponding willingness to either put them into practice or bear the associated costs (Batson et al. 2002).

2.3. The Methodological Framework: Empirical Analysis of Moral Agency

A working Serious Moral Game would be an instrument for measuring moral behavior. Therefore it seems appropriate to briefly describe existing methods for the empirical analysis of moral behavior, attitudes, etc., especially those with elements that could be integrated into a Serious Moral Game. These methods are as follows:

1. Surveys by questionnaire: Surveys about moral convictions and values are mostly done by social psychologists. Of such instruments, one of the most well-known and best confirmed (across different cultures) is the Schwartz Value Survey (Schwartz 1992). In this, a questionnaire determines the subjective importance of ten different (but not explicitly moral) dimensions of value. Currently the most extensive and comprehensive survey of human values is represented by the World Values Survey.[22] This is an ongoing academic investigation by social scientists into the nature and status of the socio-cultural, moral, religious, and political values across different cultures throughout the world. The project is a development of the European Value Study that was started at the beginning of the 1980's, and consists of periodic interviews with at least 1000 people in each country. Such surveys are very complex and often expensive, especially when many data records have to be collected. With the emergence of the Internet and the opportunities it brings, cheaper ways to survey are now available. Two famous examples are the Moral Foundation Questionnaire given by a research group led by the moral psychologist Jonathan Haidt, as well as the Moral Sense Test given by the anthropologist Marc Hauser's research group. Both websites have produced complex data records on the order of tens of thousands of entries (Hauser 2006).

2. The Kohlberg Paradigm: This experimental paradigm, standing in the tradition of Piaget's studies in developmental psychology, was developed by Lawrence Kohlberg (1984), and for many years it has dominated the discussion about the ontogeny of moral agency. The basic idea is that the moral development of an individual occurs along a universal and consistent sequence of six stages. The experimental design uses interview questions and a corresponding analysis grid that refer to a defined dilemma, which then allows researchers to assign subjects to a particular stage along that sequence.

3. Dilemma tests: Such tests have gained wide used in current moral research. In these tests, dilemmas that have long been used as thought experiments by philosophers are empirically tested by having research subjects provide answers to them. In some circumstances the psychological processes accompanying the decision get recorded (e.g. electrical skin conductance or imaging of brain activity). The dilemmas are structured so the alternative decisions each represent a paradigmatic type of morality (e.g. consequentialist versus rule-based) connected to normative theories (e.g. utilitarianism or Kantianism).

4. Experimental Games: Behavioral economists analyze how people behave within defined realms of economic interaction (e.g. buying and selling, investments). They use games that involve the analysis of strategic action in systems with predetermined rules. Those methods have their roots in concepts developed within the framework of game theory since the mid 20th century (by John von Neumann and Oskar Morgenstern, among others). Currently there are many such games being used to obtain quantitative information about the motives of subjects, such as trust and aversion to deception – concepts that are quite closely related to morality. There is little explicit mention of "moral behavior" in such games, but rather a concentration on conceptions of altruism and cooperation (cf. section 1.1).

22 See www.worldvaluessurvey.org

We cannot provide an extensive critique of these methodical approaches here (cf. Christen 2010); however, they are confronted with one or more of the following problems:

a) Some procedures classify the moral behavior of the subject on the basis of an external and one-dimensional scale oriented toward a particular ethical theory (e.g. Kohlberg's stage model). This raises the question of the extent to which such a scale can correctly show the different dimensions of moral behavior. For example, Kohlberg has been criticized for being too strongly oriented toward a justice-based morality and for having insufficient regard for responsibility and care principles.

b) Often the scenarios presented by the dilemmas are extreme, involving for instance injury and death. The subjects have often had little, if any, experience with them, and thus they have hardly anything to do with the subjects' actual lives.

c) Some of the experimental designs involve interactions between, at most, two moral agents. However, moral actions and behavior are of a profoundly social nature; this is expressed by the kinds of relationship one enters into with other moral agents, for instance.

d) The "stimuli" that are used in moral experiments (texts, pictures, etc.) can evoke rich and varied perceptions (e.g. related to individual's experiences) that for the most part can only barely be captured, if at all. Therefore it can't be determined whether the moral agents react to the stimuli themselves, or rather to the perceptions that are caused by them. And there is also the problem of methodological reduction leading to "over-interpretation" (e.g. in the relation between the notion of "trust" assumed by game theory and the (clearly richer) common-sense understanding of "trust").

e) Since the actual setting of a moral experiment is, for the most part, rather simplified (see the previous point), the broader context of the experiment involves parameters that are difficult to control (e.g. the way the subjects are briefed, the type of interviewer within the Kohlberg paradigm, etc.), and yet can nevertheless have an influence on the experiment.

f) Human beings usually have a keen sense of what is morally appropriate in particular situations, but that's not to say that they necessarily would act on, or even that they share, these convictions. Moral convictions are especially susceptible to the problem of "social desirability". This can be a particular problem for studies involving questionnaires when subjects answer not according to their own moral convictions but rather according to their assumptions about what is expected of them.

g) Moral convictions are not necessarily transformed into their corresponding actions, and so there is the problem of "moral hypocrisy" (Batson 2002): one might verbally express specific moral convictions, but avoid the costs that involved in putting those convictions into action. Tests that are purely based on tapping into moral convictions have a hard time analyzing this effect.

In short, the critique of the previous approaches to the empirical analysis of moral behavior focuses on the fact that they don't adequately respect the complexity of moral behavior. The question, therefore, is whether a Serious Moral Game can avoid this critique by deepening the level of complexity within an experimental setting, and do so in a reproducible way.

Specifically, the point would be to develop a video game that:

- is sensitive to variations in particular aspects of moral behavior, while the moral conceptions of the individual serve as a standard;
- incorporates aspects of moral behavior that are closer to "everyday life" (e.g. lying, bullying, cheating, etc.) into testing situations;
- reproduces interactions among multiple agents and gathers the resulting information (e.g. about relationship strength);
- gathers information about the conceptions evoked by certain moral stimuli;
- creates an immersive experience that is as free as possible from external influences, and thus limits the experimenter's role to the measurements;
- recognizes and minimizes the effect of social desirability as much as possible;

– integrates behavioral components in such a way as to, e.g., recognize the effects of moral hypocrisy.

In the following sections we will discuss now some general requirements for a Serious Moral Game that arise from the foregoing discussions of moral agency and moral intelligence.

Implications for a Serious Moral Game

2.4.

Games can be associated with moral issues on different levels, but not all moral issues are suitable to be dealt with in a Serious Game. A Serious Moral Game should always address moral questions in a manner that enables a meaningful and analyzable response to the game, so that the player is engaging (in a very general sense) with morality (however this presents itself in the game).

This engagement with morality should reflect a central characteristic of human morality: humans are not only moral because they understand a valid moral system and act accordingly, but also because in certain situations they can put this moral system into question. If one wants to adequately "measure" moral agency, it is not enough to analyze the extent to which a moral agent fulfills the demands of a moral system (as previously defined). One should also examine how the moral agent behaves when the applicability of specific moral norms becomes questionable in certain situations. The justified rejection of certain norms (e.g. due to changed contexts) could be a mark of moral agency, so that the way one handles these substantive commitments can be an object of empirical interest.[23] Following the distinction between morality and ethics introduced in section 2.1, the "morality" of the moral agent can be an object of analysis (to what extent does he or she meet the demands of a certain society's moral system?) as can the "ethical character" (what stand does the agent take on this moral system?) (Fig. 2; see also Christen 2010). Therefore, when we speak of "ethical game mechanisms", we mean that (in the best case scenario) a Serious Moral Game allows us to make determinations about both facets of moral behavior.

23 To take a (notorious) example: Measuring moral agency according to how well the agent follows the norm "Thou shalt not lie" in everyday life runs into the problem that there are contexts in which the fulfillment of this norm seems morally problematic (like the case in which you are hiding resistance fighters in your home, and the secret police of that totalitarian state knocks on your door).

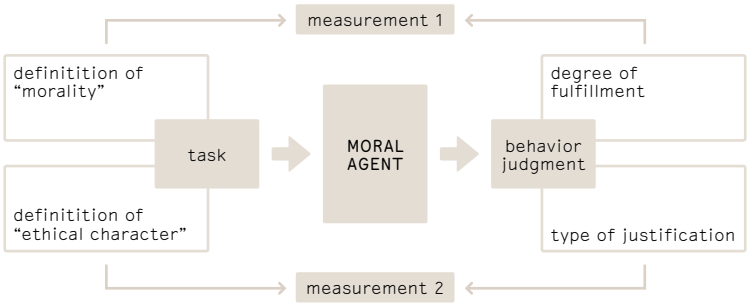

Fig. 2: Definitions concerning "morality" and "ethics" in the empirical assessment of moral agency (from: Christen 2010).

Furthermore, as we just discussed, in designing a Serious Moral Game one has to engage with substantive commitments. One major problem with that is that it is not at all clear how to appropriately represent a person's moral convictions. A simple one-dimensional axis of "good and evil" is certainly inadequate from a scientific point of view, as well as from the perspective of the complexity of the human moral capacity. Trying to do so in a way that goes off of concrete and controversial moral issues (e.g., whether one is for or against abortion) would be too enormous of a task, and restricting ourselves to just a few issues would be rather arbitrary. So the question is: which "dimensions" should circumscribe the moral space, if the individual person is to be able to locate him or herself in a meaningful way? Several ways of classifying moral values or action types have been proposed. Well-known examples of such classifications are: the three classes proposed by the cultural anthropologist Richard Shweder – autonomy, community, and divinity (Shweder et al 1997/2003); the five classes proposed by the moral psychologist Jonathan Haidt – fairness, harm, ingroup, authority, and purity (Haidt 2007); and the ten value groups of psychologist Shalom H. Schwartz – self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence, and universalism (Schwartz 1992). The variations reflect different purposes for the classifications, as well as different understandings of morality.

The psychological model of a moral agent, introduced in section 2.2, refers to specific features that can be the object of a Serious Moral Game, and thus can be "measured" through such a game:

Moral Compass: In order to give an account of how the behavior of the player in a game relates to her moral convictions, these convictions must be articulated in at least a rudimentary way. This may, but need not necessarily, happen through the game itself, but can happen, for example, as part of the debriefing, if game is part of a study.

Moral commitment: Moral action is closely linked with the motivation to allow one's behavior to be guided by moral considerations. For a Serious Moral Game this means that the gameplay has to build in such a motivation, which is to say that moral issues must have significance to the game itself.

Moral sensibility: Moral action is based on the ability to recognize that there is a moral problem presented in a given situation. Accordingly, a Serious Moral Game has to present the moral questions in a manner that inherently allows for a corresponding moral cognition. The extent to which the individual player can effectively make use of his or her moral sensibility is one of the possible items for measurement.

Moral problem solving: Although the morality of human beings is not reduced to "solving" moral issues, dealing with such difficult choices is still central. Since most games are basically structured decision spaces (which means that during the course of a game the player continuously makes decisions), this point is almost a 'natural' component of a Serious Moral Game. But in particular, video games could enable the implementation of very different decision-making situations (e.g. those under time pressure, with limited information, etc.) within a common framework.

Moral resoluteness: Moral agency is manifested in the concrete behaviors or behavior patterns of a moral agent. Since video games often utilize representations of the player, this point can be included fairly easily (in contrast to most traditional tests) by including obstacles and "temptations" in the game play that must be confronted by the player.

A Serious Moral Game, in the form of a video game, is therefore in a position to fulfill all the components of moral intelligence, and likewise the psychological model of moral agency that we have laid out. In the following chapter we discuss video games that thematize moral behavior

in various ways, in order to investigate the concrete possibilities that have been or could be realized in this regard.

3. Ethical Game Mechanisms in Video Games

In this chapter we will illustrate how existing video games thematize moral action and confront the player with ethical choices. For our purposes the occasions for ethical action that are external to the gameplay itself are not relevant; these would basically have to do with the decision to abide by the rules of the game or adjust them to changed circumstances. Internal to the gameplay are two levels of evaluation, one being the social context of the game, and the other being the gameplay itself. We will argue that the second level offers the most interesting perspectives when it comes to the creation of a Serious Moral Game. Following this, we will provide a detailed analysis of common video games and the different forms of ethical game mechanisms involved.

Foundations 3.1.

Ethical Decisions as a Part of Interactivity 3.1.1.

In its multimedia form the video game has at its disposal all of those design principles available to other forms of media (such as film, still pictures, written or spoken text, etc.). Most of these other forms are not interactive in the strictest sense. This may be one reason why video games often address the theme of "ethical action" in only a representational or illustrative way. Here the player takes on a purely interpretive role, without having a direct influence on the game through ethical actions. This is noteworthy in that interactivity is an essential characteristic of video games (Crawford 1997/2002), requiring players to make decisions. Interaction is not limited to the players' influence on the objects in the game; rather, it also involves the player's interactions with each other, as well as the way that the game relates to its cultural context (Salen & Zimmerman 2004).

The term "interaction" refers to different forms of reciprocity, whose nature and strength depend on the kind of game. Nevertheless, the possibility of (structured) interaction is an essential feature of a video game. Accordingly, the following analysis of game mechanisms for representing aspects of ethical behavior will focus on those games in which moral agency is not just exercised interpretively, but also interactively. The question, though, is not simply whether a game allows for such decisions, but also whether it requires this kind of gameplay, or at least motivates the player toward it. Assuming this to be the case, one would then need to examine the ways in which the game responds to the ethical decision, interprets this information, and embeds it into the game mechanics. One must also consider how video games can be presented, especially in ways that distinguish them from simple ethical tests. Finally, investigating distinctions in the modes of presentation allows one to identify the possible components of a Serious Moral Game.

But before we go into examples, we should address the question of whether video games allow players to act according to ethical criteria in the first place. Assuming that every conscious action may be ethically motivated under appropriate circumstances (e.g., by taking place within a social context on which it can have an impact), most video games allow for decisions that involve ethical considerations. Even a game with such rudimentary rules as Pong (Atari 1972)[24] could be played with the (ethical) motive to, say, lose the game on purpose, or to moderate one's way of playing in response to a weaker opponent so that the opponent can enjoy the game as well. In short, whenever a game puts a player in the position to consciously influence the course of the game, that player's actions can be guided by moral considerations.

There are only two kinds of games that don't meet these criteria, and thus could not be ethically guided games. The first are the so-called "Zero-Player Games" that don't involve any actions at all on the part of players (or if they do, it doesn't matter who performs them), and so the "players" are just observers.[25] The other kind are games of chance in which there are real players, but they don't have an option to make their own decisions because they don't exercise any control over the gameplay. Games that depend completely on chance (for example, "Chutes and Ladders"[26]) are therefore free of ethical action criteria. The only ethical choices that might be presented to the player would not be internal to the game itself, but external to it, such as the decision as to whether the game should be played at all or whether one will abide by the rules.

24 This game was modeled on table tennis, and became the first video game to gain worldwide popularity.

25 In the field of analog games, there are zero-player games in which players can participate, but the player's role is limited to the execution of pre-defined actions, ones that don't allow for choices but aren't random either; rather, they simply serve to advance the game. That includes the taking and giving of cards in a fixed order.

26 Das Leiterspiel. This is a simple board game in which the objective is to get one's piece to the goal as quickly as possible. The player's action is limited to tossing the dice and counting the appropriate number of spaces.

Two Evaluation Levels of Ethical Action Criteria 3.1.2.

Games always provide opportunities for ethical behavior external to the gameplay itself, but these are not relevant when it comes to determining the components of a Serious Moral Game. Accordingly, we will hereafter focus on ethical actions within the game. We will first need to clarify the areas of the game in which to locate the ethical actions.

Two evaluation levels have to be distinguished, the first of which will be illustrated using the example of the game Pong we mentioned above. There we described a player who, on the basis of ethical considerations, purposefully loses, or moderates his play according to the lesser abilities of his opponent. Such ethically motivated actions happen within the game, and are therefore part of the gameplay (in contrast to, say, violating the rules, which is not part of the game logic). The ethical significance of this behavior, however, lies outside of the game, in that the effects of the action obtain in the real world rather than that of the game itself. The player brings an ethical quality to his game actions by placing the game actions in a context outside of the game itself. This social context enables the player to evaluate his own actions according to ethical criteria (e.g., under the aspect of fair play).

Another example of a game whose ethical dimensions obtain in a context outside of the game is *Globulos* (GlobZ 2003, Abb.3), which is actually a collection of mini-games. One of these is Teamfoot, a multiplayer game[27] similar to soccer in which two teams compete, each team consisting of two players controlling two game characters apiece. In this game, situations regularly occur in which players leave the game early (sometimes this is for technical reasons, like being cut off from the server, or sometimes a player simply doesn't want to keep playing). This leaves the remaining team much weakened, since through the loss of the teammate, two of the game characters are also removed. Players from the opposing team can correct the resulting imbalance by each removing one of the two characters they control. Such voluntary relinquishing of a sudden advantage is quite common; it is also in the opponents' own interest, as their adjustment keeps the game exciting.

27 A game played with or against other human players.

This action can also be interpreted as an act of fair play in which ethical criteria play a role. As before, the action takes place in accordance with the logic of the game and follows its rules and regulations (characters are removed by moving them behind their own goal line). However, though the action takes place within the logic of the game, the ethical significance lies outside of the game. Specifically, it lies in the social context, wherein it frees a solo player from a disadvantageous position in which he finds himself through no fault of his own. Thus, if we evaluate the action with respect to just the level of the game world, we would come to a different result than when we include the effects on the broader context.

The social context in which the game takes place is not the only level on which game behavior can be ethically judged, a player can invoke ethical standards for his actions, or wherein such standards can be deduced. Another is that of the game world itself, and refers to the ethical evaluation of the impact that players' actions have on the course of the game, given the way the designers have set things up. It is therefore essential for the evaluation of ethical game actions, their conditions, and their possibilities that we determine which of the two proposed levels of evaluation will be the reference point. Although in each case we're referring to actions that take place during a game, the two levels have to be distinguished when considering the ethical dimensions of those actions. These two levels of evaluation will be described in more detail below.

Fig. 3: Screenshot of Globulos. Players can chat with other participants and add them to their list of friends, giving the social behavior in the gameplay additional significance.

The Social Context as the Evaluation Level 3.1.3.

Having introduced these two levels of evaluation, we will consider which level contains those actions most important to a Serious Moral Game. First let us focus on the level of social context: Would a game that requires ethically motivated actions only on the basis of its context be suitable as a Serious Moral Game?

The prerequisite for the construction of such a game would be the challenge of establishing a context which is, on the one hand, as stable as possible, and on the other hand provides a motivation for the ethical evaluation of game acts. In a game where such a context is offered as a possibility but not guaranteed as a permanent fixture, the motivation for ethical actions will be dependent on the actual situation. For a Serious Moral Game to provide valid results, then, the assurance of a sustained context is essential.

Such a stable context is provided for in the *Globulos* example. This collection of mini games embeds a series of means for comparison that are permanently maintained. First, there is a public ranking, or "leaderboard", on which the players can establish themselves by winning over

a long period of time. The ranking provides a strong basis for ethical evaluation of the game behavior we described earlier, especially because it is a competitive element. A player who has been abandoned by his partner not only has few prospects of winning the game, but is also threatened by a drop in ranking as a result of a defeat. So the ranking system increases, on the one hand, the importance of a win (one climbs the leaderboard), and on the other hand gives more significance to a voluntary waiver of one's own short term advantage as a matter of fair play.

The leaderboard also includes player profiles, which essentially consist of a name, one's place on the leaderboard, and the (modifiable) appearance of one's game characters; these profiles are important for the identification of players, teammates, and opponents. *Globulos* also has an integrated "chat system" (a game mechanism designed to facilitate certain social functions) that allows players to communicate during the game. Since games are played in turns, the players have opportunities to chat with each other during the playtime. Furthermore, the chat system also permits observers to participate. What the participants chat about is up to them, but most chats are about the game itself (given that it is a common locus of experience) and about the behavior of the players, especially on the topic of fair play. Moreover, a player can create within that chat system a list of friends, but also a list of players with whom he no longer wants to communicate. This is another important feature of the system when it comes to the significance of fair play.

Whether the list is actually used or not is incidental, because its very existence, and the kind of social evaluation it enables, marks out a social context for the mini-games. A defined, stable context arises in *Globulos* out of the interaction of various mechanisms in, and especially about, the mini-games. This context allows for the evaluation of game behavior from an ethical framework, and it encourages such evaluations from the participants.

The example of *Globulos* clearly reveals how much effort and what kinds of conditions are necessary to establish a social context in which decisions with ethical dimensions can be made. Moreover, a large and active community of players, as well as at least several weeks of playing time, are needed for a lasting assessment of a player's behavior to emerge. Given the complexity involved in establishing and sustaining these kinds of features, this kind of evaluation – one that focuses on the social context – seems rather unsuitable for the implementation of a Serious Moral Game. The alternative therefore is to direct our attention to games that don't require such conditions, since the possibilities for ethical decisions are internal to the games themselves.

The Game World as the Evaluation Level 3.1.4.

When video game productions promise the chance to make decisions of an ethical nature, they usually aren't talking about the social context of a game. Rather they are referring to a game world that is set up so that opportunities for ethically motivated actions are internal to the context of game itself. This distinction is relevant to the design of a Serious Moral Game because of the problems described above, and it leads directly to the question of which configurations and parameters have to be in place to make the level of the game world suitable for the evaluation of ethical action criteria.

Jesper Juul says that an essential characteristic of digital games is that they are in a stronger position to construct fictional worlds and behavior as compared to traditional, non-electronic games. This creates an interplay between game's rules and its fictional context (Juul 2005). While the mechanics of board games, card games and dice games are rather abstractly presented, in digital games the visualizations of game worlds are of such importance that the term "virtual world" is sometimes used synonymously with "video game". The transition from analog to digital games seems to be accompanied by a stronger correlation between the virtual game world and the actual environment with its associated behavior patterns. When video game reviews talk about the content of digital games, their accounts don't describe abstract game mechanisms but rather fictional actions in a fictional world, in a style not unlike that of movie reviews. Game actions gain a narrative-semantic meaning, and can in principle be evaluated within the particular game world according to ethical criteria, such as the significance of the

players' actions and their impacts on the inhabitants of the game world.

Of course this does not apply to all digital games. Many video games lack an objective game world and involve actions that don't fit into a narrative, which means that these actions are not available for ethical evaluation from a perspective internal to the game world itself. A game like *Tetris* (Alexey Pajitnov 1989), for instance, has hardly any connection to a narrative, and as a consequence it seems impossible to consider the actions within the game as having any ethical significance. Since game worlds with a high degree of abstraction don't focus on ethical action criteria, we will henceforth be considering games with worlds that are concrete enough to offer a narrative space for ethically evaluable actions. The distinction between abstract and concrete game worlds is not absolute, given that video games always contain both elements, though the relative weight of each varies substantially (Parlett 1999).

The presence of opportunities for ethical action within the game world does not yet speak to the significance of such decisions within that world. To be sure, whenever a concrete game world presents the player with actions that are intelligible in terms of the narrative, the player has the possibility of considering his behavior within this world according to ethical criteria. However, for the need to contemplate the ethical dimensions of his actions to make sense to the player, the alternatives that the game presents to him cannot be neutral from an ethical point of view. With most games these days this is rarely the case. Many game designers do agree that the quality of a game depends on the nature and importance of the decisions – "a good computer game is a series of meaningful choices" (Sid Meier, quoted in Rollings & Adams 2003: 200) – and that these decisions should be frequent and meaningful (Rouse 2000). But in most games, such decisions are merely strategic, tactical, or economically significant. This makes it quite interesting for the player, but on an ethical level they are largely irrelevant.

In striving to be relatable to real world processes while at the same time having an exciting narrative, concrete games often deal with dramatic events. Therefore one cannot suggest that the narrative elements of such games could be reduced to ethically meaningless actions; indeed, the opposite is the case. Most games depict situations, events, and actions that from an ethical point of view are considered highly significant, often dealing with decisions between life and death. When it comes to evaluations from an ethical point of view, however, there is the problem that such decisions are often just narrative elements: they are part of the narrative setting of the game, part of the background to or context of the story, but not internal to the interactive gameplay. Thus many of the game's goals are pre-given without the player being in a position to question them. But it is only in making active choices that one makes ethical decisions; that is, only if a player can deliberate about a goal can his decision have ethical import.

Even a relatively simple game like *Space Invaders* (Midway, Taito Corporation 1978) can illustrate this problem upon examination. In this game the player makes tactical decisions in determining how to attack opposing spaceships and how to protect himself. From the technical perspective of the game these decisions are far from trivial, as they determine success or failure. And yet because ultimately all the spaceships have to be destroyed in random order, the decisions are ethically neutral. Decisions that would have ethical relevance in the world of *Space Invaders* (e.g. contracting a peace agreement with the opponents, betrayal, etc.) cannot be made, because the relevant options are not available within the game. The example of *Space Invaders* readily illustrates the problem because of its well-known set of rules and its simple game structure; but it applies also to far more complex games, most of which don't offer the player the opportunity to make decisions that would be ethically significant (albeit this may also be because the possibility of decisions is difficult to implement from a technical point of view). Thus the overwhelming majority of current video games offer at best only the theoretical possibility of ethical reflection on actions within the game.

The following analysis focuses therefore on the minority of games that explicitly require ethical decisions from the players, though in very different ways. We will consider games that, first, allow for judgments along ethical criteria, and secondly enable the judgment to be made within the fictional setting of the game itself, so that it's not a matter of projection onto the surrounding social context of the game. These games offer not only the possibility of acting according to ethical cri-

teria, but actually require it in that both the narrative and the game mechanics give ethical decisions a central importance.

In order to assess the potential for a Serious Moral Game effectively, we have made our selection so as to cover the largest possible range of game mechanisms that can represent ethical behavior internal to the game. While some games are based on similar game mechanics, we tried to ensure, in preparing this overview, that the ethical decisions and spheres of action are embedded in the game mechanics in different ways.

Analysis 3.2.

Façade 3.2.1.

Developer and publisher: Procedural Arts, Michael Mateas, Andrew Stern
Platforms: PC (Windows, Mac OS)
First published: 2005
Genre: Interactive Drama, Interactive Fiction
Independent, non-commercial game project

Fig. 4: Screenshot of *Façade*. The interaction in the game takes place mainly via language processing: The player inputs text via keyboard to communicate with Grace and Trip, without being confined to predetermined dialogues.

Narrative Setting: in *Façade* (Procedural Arts 2005, fig. 4) the player takes on the role of a close friend of Grace and Trip, a couple that has invited the player to their home. The game begins when the player enters the pair's apartment, and she will not leave for the entire duration of the 20-minute gameplay. However, despite having been invited to cocktails, the visit seems inappropriate, as there is an atmosphere of tension between Grace and Trip that soon develops into a marriage dispute. The player witnesses and inevitably gets drawn into the dispute, the outcome of which depends on how she behaves.

Gameplay: During the entire session the player can freely move in

real-time throughout the 3-D environment of the apartment. The interaction takes place mainly via language processing, which gives the player the chance to enter sentences on the keyboard to communicate with Grace and Trip, without interrupting the plot or being limited to a selection of predetermined dialogues. The game is based on artificial intelligence that dynamically evaluates the player's input. In this way it avoids having a constrained storyline or a selection of possible stories. It is especially this interactive storytelling – one that allows the players to act as protagonists in a dramatically rich environment (Crawford, 2004) – for which *Façade* has become well known, justifying the subtitle, "An interactive drama in one act." *Façade* is not usually referred to as a game, since there is no game goal, and it is left to the player to decide how to act and in what direction to take the storyline.

Ethical System: *Façade* does not have an explicit but rather an implicit ethical game system. The action is evaluated, for example, according to the proximity of the player's own position to Grace and Trip. Statements of praise or criticism also play a role. Direct questions by Grace and Trip invite the player to comment and express his or her own position within the dispute. In its setting, its interactive possibilities, and the way the game responds to the interaction, *Façade* addresses the subject of social interaction like almost no other game. A player has different ways of responsibly dealing with a situation she was pulled into as a friend of the couple. Since the game responds accordingly, it allows for moral behavior that has significance internal to the game itself. A player's behavior might, for instance, damage her friendship with the couple, causing her to be thrown out of the apartment. Because *Façade* neither specifically addresses the matter of ethical choice nor reduces it to a single situation, it asks the player to ethically examine her actions continuously throughout the game. This is reinforced by the fact that the player is largely free in her interactions, as she decides for herself how and when to communicate with Grace and Trip. The player chooses not only between alternative courses of action that the game offers, but she decides for herself whether and how to incorporate ethical considerations into her actions. The game does not pose ethical questions to the player; rather it leaves it up to the player whether to ask these questions herself.

InFamous 3.2.2.

Developer: Sucker Punch Productions
Publisher: Sony Computer Entertainment First published: 2009
Platforms: PlayStation 3
Genre: Action, Role-Playing
Commercial game for a technology- and game-loving audience.

Fig. 5: Screenshot of *InFamous*. The game is equipped with a moral system that is linked to the rest of the game mechanics. It determines which abilities and powers will be available to the player.

Narrative Setting: *InFamous* (Sony Computer Entertainment, Sucker Punch Productions, 2009, fig. 5) is set in a fictional city based on actual reality. The player assumes the role of a former bike courier who gains superpowers due to a massive explosion that destroyed large parts of the city. While the city and its inhabitants sink into chaos as a result of the disaster, suffering food shortages and spreading epidemics, the player must learn how to use his newly acquired powers so that he can help his friends and restore a sense of normalcy to his environment.

Gameplay: The game is a so-called third person shooter with elements of role-play. In addition to the fighting typical of the genre, getting around is a central element of the game – the avatar negotiates enormous obstacles, climbs up walls, and jumps over rooftops. The avatar's electricity-based superpowers have a decisive role in both the fighting as well as in performing often spectacular maneuvers, making him a combination of freerunner and superhero. As the game progresses, the

player can build up both the strength and diversity of the character's powers.

Although the player is given the possibility of making decisions on tactical, strategic, and ethical levels, the game has a mostly linear structure. The aim of the game is to push forward the gameplay and narrative development, and to bring the whole story to an end after a few hours of playing time. The game is divided into individual, consistently dangerous missions in which one has to, e.g., save certain people, secure goods, or get to a defined location. It is possible to fail in trying to achieve these goals, which on the narrative level means the death of the protagonist; but this doesn't yet end the game. Rather, the player is given the option to play the failed section again. Thus, the game is designed so that it can be successfully completed and won. This structure is typical of many of today's single-player games, and also applies to the games *The Witcher*, *Fallout* 3, *Fable* 2, *Bioshock* and *Deus Ex*, which we will discuss later.[28]

Ethical System: The game offers opportunities for choices based on ethical criteria. Some decisions involve choices based on particular events and are staged accordingly. At one point, for example, the player is given the choice of whether to keep some acquired food for himself and his friends, or to share it with the desperate residents of the city. He is led into the situation and has to make a deliberate decision. But the player also has ethical choices to make during the normal course of the game: he has, for example, the choice of whether or not to accept certain collateral damages by fighting his enemies.

The game features a morality system that evaluates the particular behavior and displays it to the player as a value indicating the "Karma" of the hero. By involving a single parameter according to which all ethical decisions can be easily classified, the ethical value system of the game is based on a simple scheme: "good - evil". This system is directly linked to the rest of the game mechanics in that the amount of Karma determines which superpowers are available to the player. A positive Karma value enables different skills than a negative one. Likewise, a particularly high Karma value (for good actions), as well as a substantial negative value (for evil actions) brings an increase in ability, whereas an intermediate value (for balanced actions) leads to hardly any increase in strength at all. Strategically, it is therefore not very important whether a player decides to do good or bad, but rather whether he does so consistently. This somewhat unconventional system leads to the peculiar fact that the player is free from strategic-economic considerations only when he makes his first ethical decision, since the game system encourages all further decisions to be made in such a way as to remain on the chosen path.

28 In contrast to this are the single-player games of the 1980s. In these games, a certain number of failures ends the game altogether, and it has to be restarted from the beginning. Thus it is difficult to finish such games successfully.

In addition to evaluation at the level of the game mechanics, the game responds at the narrative level as well. Thus, certain aspects of the narrative change, as well as the character's appearance. The behavior of the city's population also depends on the particular style of play – they can, for example, rush to help the good player, while hurling garbage at the less virtuous player.

The Witcher 3.2.3.

Developer: CD Projekt RED
Publisher: CD Projekt, Atari
First published: 2007
Platforms: PC (Windows)
Genre: Fantasy role-playing
Commercial game for a technology- and game-loving audience.

Narrative Setting: The plot of *The Witcher* (CD Projekt Red Studio Atari, 2007, fig. 6) takes place in a medieval fantasy world which is the scene of a bloody conflict. A fanatical religious sect is fighting a bitter war against all non-human races, but is battled by a no less fanatical band of freedom fighters that uses attacks on civilians to pursue their political goals. The story and its characters are deliberately designed so that the player's avatar, a part-human, does not belong to either faction but is rather a social outsider.

Fig. 6: Screenshot of *The Witcher*. Through a dialog system players can interact with other characters. In so doing they can make decisions from an ethical point of view that then affect the course of the game.

Gameplay: The game uses a third-person control. The key game actions are based on battles that are conducted in real time, as well as dialogues in multiple-choice form. The game and its world have an open layout so that the player does not have to follow a linear plot. In discussions with various persons the player is given tasks (called quests), the fulfillment of which provide the player with experience points, which she in turn can use to enhance her combat skills. The structure and goals of the game largely correspond to those of *InFamous* (see 3.2.2).

Ethical System: Through the dialog system, the player can interact with other characters and make decisions that determine the course of the game, and that can be ethically motivated. The game focuses on those decisions and encourages the player to make ethical ones, since that especially determines the particular situation and incorporates it into the narrative. The conflict mentioned above repeatedly forces the player to take a stance in dramatic situations. The game does not offer a simple scheme of good vs. evil; since the player belongs to neither of the conflicting parties, she is often faced with an ethical dilemma and must choose the lesser of two evils. The uncertainty involved in making the ethical decision is magnified by the fact that it is often very hard to predict the repercussions of an action. During the game, for example, the player faces a gang of gunrunners and has to decide whether to stop them. If she doesn't, a friend of the player's avatar gets killed with the smuggled weapons as a result – but this only happens later, after several hours of game time, which means the player cannot consider this consequence at the time of her decision. The delay in repercussions also undermines the temptation to reverse decisions by aborting the game and reloading a recently saved version.

The game thus responds narratively to the ethical decisions, which can at the same time have an impact on the gameplay by altering the current situation of the player (in the example above, the player has to solve a task without her NPC[29] friend). However, it doesn't use a direct parametric score, unlike, for example, *Bioshock* or *InFamous* which display numerical values. *The Witcher* presents the players with ethical dilemmas and responds to their decisions, but does not itself evaluate the actions. And yet the actions of the player are ethically significant, not because they are sanctioned, rewarded, or converted to parameters, but because of their repercussions within the storyline of the game.

PeaceMaker 3.2.4.

Developer and publisher: ImpactGames
First published: 2007
Platforms: PC (Windows, Mac OS)
Genre: Turn-based strategy game
The serious game *PeaceMaker* was a master's degree project by students at Carnegie Mellon University in Pittsburgh.

Narrative setting: In *PeaceMaker* (Impact Games 2007, fig. 7) the player can choose to represent either the Palestinian President or the Israeli Prime Minister. The goal of the game is to overcome the diplomatic, military, and financial hurdles associated with a conflict that is a major ongoing issue in real world global politics, and thus pave the way for a two-state solution between Israel and Palestine.

Gameplay: The game is turn-based, and each round the player can se-

29 NPC: "non-playable character", i.e. a non-controllable figure with which the avatar can interact during the game.

lect from a number of possible actions having to do with security, military, infrastructure, economy, etc. These actions put the players in a position to restrict or expand military strikes, as well as to either further or halt construction projects and political dialogues. Each round in the game corresponds to one week of playtime, at the end of which the player learns of the impact of his decisions, and that of other events for which he was not directly responsible, in the form of news stories. The game draws from the Reuters news agency's archive of actual news stories, images, and video material. The player must repeatedly respond to unexpected events such as suicide bombings or riots.

Fig. 7: Screenshot of *PeaceMaker*. The game focuses on the Middle East conflict, and draws on actual text and images from news agencies to build the context of the game plot.

Ethical System: The game system of *PeaceMaker* simulates political processes, but is this the same thing as an ethical system? *PeaceMaker* doesn't provide the player with ethical options that would allow him to play the game in different ways or even to win, since the two-state solution is the non-negotiable political objective. The player chooses from among acts that admit of ethical interpretation, some of which he may prefer and others he might oppose, but he must first and foremost ask whether a choice will bring him closer to fulfilling the game's unalterable goal. The ethical system becomes operative when the game starts to comment on the decisions through a barometer that indicates the attitudes of different social groups (Hamas, Israeli settlers, UN, etc.). A

kind of polling instrument measures the popularity of the President or the Prime Minister, which means the player has to calculate his actions carefully in order to achieve high, but also balanced, approval ratings and to win the game. Help in decision-making is also provided, which (in accordance with the layout of the evaluation system) takes into account the different perspectives of individual groups: the player has two advisors on hand whom he can consult prior to a pending decision, but who are, in their assessment of the situation, often clearly at odds with each other because they each only respond to limited aspects of the conflict.

When it comes to achieving the goal, there is no restriction on the number of rounds since the points of the individual rounds are added continuously and the game has no set playing time. But if the approval ratings become too negative during the course of the game, or if the balance of favor leans too far toward one side, the game is lost. Since the social groups evaluate the actions of the player politically and ethically, the player is brought to a place where he can understand the political conceptions and desires of the groups as well as their ethical values. The game does not give the player ethical freedom for his action, but it leads him to reflect on his actions ethically while never disregarding the social context.

Fallout 3 3.2.5.

Developer: Bethesda Softworks
Publisher: Bethesda Zenimax
First published: 2008
Platforms: PC (Windows), Xbox 360, PlayStation 3
Genre: Action Role-Playing
Commercial game for a technology- and game-loving audience.

Narrative Setting: *Fallout* 3 (Bethesda, Bethesda Softworks, 2008 fig. 8) is set in a North America that has been destroyed by nuclear war. The protagonist survived the disaster in a fallout shelter, and she is now roaming the post-nuclear wasteland in search of her father. There she meets a variety of dangerous creatures (usually in the form of mutated humans and animals), and also encounters survivors who have banded

together in small, makeshift settlements. The world presents itself as torn and dangerous, which ends up being significant for the ethical aspects of the game. Political and social structures are only marginally present and are dominated by the "law of the jungle."

Gameplay: The game uses a third-person control. The game mechanisms consist mainly of battles that are waged either in real time or in turns, as well as dialogues in multiple-choice form. The game starts with a relatively open character profile, which is defined by assigning values to different attributes. During the game the player has the option to equip the avatar with a large number of items (clothing, armor, weapons, tools, etc.), which she has seized, found, or gained through trade. By talking to NPCs, tasks are given that provide narrative structure to the otherwise open layout of the game. The structure and goals of the game correspond largely to those of *InFamous* (see 3.2.2).

Fig. 8: Screenshot of *Fallout 3*. The game world presents the dangerous environment of a society that is ruled by the "law of the jungle". The criteria for ethical action take this situation into account.

Ethical System: Ethical decisions in this game are possible; they are addressed through the story and put forward by the game system. Certain game actions are ethically evaluated and converted to a parameter called "Karma", just like in *InFamous*. This value does not determine the abilities of the character, but rather regulates how the population of the post-apocalyptic world responds to the avatar. Unlike in *InFamous*, then, these reactions are not only of a narrative or symbolic nature, but build themselves into the gameplay in that they define the character's friends and enemies, and thus determine who the player can expect to help her and whom she has to fight. The friendly or hostile groups are split into factions, which means that the player is not schematically rewarded for good behavior or high Karma, but rather in accordance with the significance of her actions for the respective groups. The combination of the Karma system and the separation of the population into groups regulates which regions the player can feel safe in, and which areas she can only enter with great risk.

Since there is a mathematical analysis of ethical game decisions, most of the decisions have a precise valuation. The player will not, for example, be faced with an ethical dilemma when having to decide whether to defuse or to detonate a nuclear device in the middle of a settlement. But the game does involve making decisions in the face of ethical dilemmas. For instance, the player might meet a man who has mutated into a tree-like creature, and is now revered and worshipped as a kind of deity because his very presence enables the fertility of the oasis in which he resides. But the creature begs the player to free him from his tormenting, plantlike life. Such dilemmas require of the player another type of decision making, and consequently these decisions will not be translated by the game system into Karma points. Regardless of whether a particular decision is linked to Karma points or not, it has a direct impact on the gameplay since the player has to deal with the immediate consequences. In addition, certain decisions are linked to the solution of a specific game task.

3.2.6. Fable 2

Developer: Lionhead Studios
Publisher: Microsoft
First published: 2008
Platforms: Xbox 360
Genre: Action Role-Playing
Commercial game for a technology- and game-loving audience.

Fig. 9: Screenshot of *Fable 2*. The dynamic character development also has a central significance for the ethical game system. In addition to age, diet, and physical activity, moral behavior also affect the look and appearance of the character.

Narrative Setting: *Fable* 2 (Microsoft, Lionhead Studios, 2008, fig. 9) is set in a fantasy world that consists of aspects resembling 17th and 18th century Western society. The player takes either the role of a young woman or a young man and experiences a kind of hero story, which divides itself into different game missions (like chapters). The player largely determines for himself whether to accept a mission and advance the story. Because of the relatively open game world, he also has the opportunity for action beyond the main story that can be of a more adventurous or a more everyday nature. He may, for example, pursue a profession and use his wages to buy clothes, tools, or weapons.

Gameplay: *Fable* 2 has a complex gameplay available that allows for typical game and adventure activities, as well as different forms of social interaction. A key element is the dynamic character development,

which will be important for the ethical system as well. For one thing, it determines what the character looks like, since things like age, diet, and physical activity have an effect on the figure's physique. Moreover, it defines how the NPCs react to the protagonist. Also, the structure and goals of *Fable* 2 correspond largely to those of *InFamous* (see 3.2.2).

Ethical system: The game uses a moral system that is built on the dichotomies of "good and evil" and "pure and corrupt", and evaluates a large part of the game action on this basis. This system is directly tied to the character development, such that actions that are evaluated by the game from an ethical perspective as "good" or "pure" can lead to a different appearance of the character than "evil" or "corrupt" actions. Pale skin, for example, is a consequence of "evil" gameplay, and horns growing on the protagonist's forehead stand for "corrupt" game actions.

The same parameter defines how the NPCs react to the protagonist, such that their behavior turns on the individual style of play as well. The changes in behavior have here a primarily narrative significance, because in addition to the appearance of the avatar, the reactions of NPCs also serve as a kind of feedback on the player's own actions. Both inform the player about how his style of play is being ethically evaluated. The ethical evaluation encompasses game actions on two different levels. On the one hand are those actions that are available to the player during a normal course of the game. If the avatar partakes of some food, the kind of food it is will be appraised. Eating a vegetarian meal will be seen as a "good" action, but if the meal includes meat, it will be considered an "evil" action. Within this continuous evaluation of the general gameplay, it is also significant whether the player steals, provokes fights, or displays similar misbehavior. Moreover, game actions that mark a particular event in the course of the story are evaluated. In each of these the player confronts a situation that requires an ethical decision. Perhaps during a mission he has to decide on the fate of a group of prisoners, either to free them (good deed) or leave them with a slave trader for a reward (evil deed). In most cases, the evaluation criteria are relatively clear, since they are based on a distinct opposition between altruism and egoism.

3.2.7. September 12th

Developers: Powerful Robot Games
Publisher: Newsgaming
First published: 2003
Platform: Flash
Genre: Casual Game, Art Game

Fig. 10: Screenshot of *September 12th*. The game considers itself to be a statement of criticism: In the fight against a terrorist threat civilians are affected, which ultimately only increases the spread of terrorism.

Narrative Setting: The story of *September 12th* (Powerful robot Games, Newsgaming 2003, fig. 10) is set in an imaginary town in the Middle East where terrorists have hidden themselves among the population. The player perceives the situation from a bird's eye perspective, a crosshair indicating his presence. The only opportunity for action is to drop bombs that do regional damage to the surrounding settlement.

Gameplay: The player is able to recognize the terrorists immediately due to a distinctive marker, and can also hit them with bombs fairly easily. But since the bombs have a certain radius of damage, that comes with the cost of many civilian lives. The consequence is that, while some civilians gather in grief, others turn themselves into terrorists. The simple gameplay is deliberately designed so that the player cannot win. Therefore, as the homepage of *September 12th* notes, it is not really a game: "This is not a game. You cannot win and you cannot lose. This is a simulation. It has no ending. It has already begun. The rules are deadly simple. You can shoot. Or not. This is a simple model you can use to explore some aspects of the war on terror."

Ethical System: Technically *September 12th* does not employ an ethical system, as it allows only a certain type of action: the dropping of bombs, the collateral damage, and the stirring up of more enemies. So there is no possibility within the game logic for ethical deliberation, except in deciding whether to act at all. But not acting is tantamount to not playing. To be sure, not playing is not a game action in the strict sense, since the termination of a game is generally not counted as part of the game itself. But in the case of *September 12th*, this is different: since the game is designed so that it cannot be won, and that fact is also clearly indicated, the choice to discontinue with the narrative becomes part of the game. Of course, every game provides the chance to choose not to play or to abort the game out of an ethical motivation; the difference is that games are usually designed so that the player will stay in the game for as long as possible. *September 12th* is different from other games both because it can neither be won nor lost, but also because its plot has no development.

The example of *Space Invaders* discussed above illustrates that while many games might engage ethical issues in their narrative setting, when this engagement lies outside of the gameplay ethical actions are not available to the player. This is also true for *September 12th*; we bring it up here anyways, though, since this very lack of latitude in action is itself a theme of the game. *September 12th* is not only a critique of actual military procedures, which according to the argument of the game cannot result in victory; it is also a reflection on its own medium. It deconstructs the game and questions it as a whole by setting out a goal that is impossible to reach. So there is ultimately an ethical course of action, one that lies at the threshold of being "outside" and "inside" the game system, to wit: opting out of the game. "The rules are deadly simple. You can shoot. Or not."

3.2.8. Bioshock

Developer: 2K
Publisher: 2K Games
First published: 2007
Platforms: PC (Windows, Mac OS), Xbox 360, PlayStation 3
Genre: First-Person Shooter
Commercial game for a technology- and game-loving audience.

Fig. 11: Screenshot of *Bioshock*. Strategic and ethical considerations confront the player with a dilemma: to access valuable resources, the player would have to carry out actions that she should reject from an ethical standpoint.

Narrative Setting: The game *Bioshock* (2K, 2K Games, 2007, fig 11.) is set in 1960 and begins with a plane crash over the Atlantic; the sole survivor, the protagonist, enters a mysterious underwater city. This city, which was initially conceived as a utopian alternative to prevailing world systems, has now collapsed as a society, and most residents have become dependent on a substance that makes them dangerous mutants.

Gameplay: *Bioshock* is a first-person shooter game: the player navigates through a 3-D environment that she perceives through a subjective camera, and so essentially through the eyes of her character. The game world is populated by mostly hostile creatures, and overcoming them is the main task of the game. The fighting take place in real-time, and requires tactical deliberations as well as quick reactions. Since the interaction with the opponents typically involves shooting, accuracy is essential. As in most games of this genre, strategic deliberation is crucial, such as when the player has to choose between weapons that can be advantageous or disadvantageous in different situations.

Ethical System: In *Bioshock* the majority of weapons carry supernatural powers, and the player must acquire and master these weapons during the course of the game. The prerequisite for this is the gathering of a specific resource, a substance called ADAM, which can endow the human body with new abilities. The more ADAM the player takes in, the more skills she can develop, as she becomes more powerful and her strategic options become more diverse. But this valuable resource is held by special kinds of mutants called “Little Sisters”. These beings, whom the player will encounter again and again, look like little girls, and they are always accompanied and protected by a second, extremely powerful figure. If the player can overcome the protector - in the game he is called “Big Daddy” – she will have two options: either to kill the “Little Sister” and harvest a great deal of ADAM, or to spare the girl and gain only a small amount of the ADAM that she needs.

The player is confronted with a moral issue. She must choose between an ethical act that would be to her disadvantage, and an unethical act that carries an advantage. These ethical decisions have importance in terms of the gameplay (the amount of ADAM that is captured) and are also assessed through the narrative. At the end of the story the player can expect a non-interactive epilogue with one of three different variations on a resolution to the otherwise straightforward plot.

3.2.9. Deus Ex

Developer: Ion Storm
Publisher: Eidos
First published: 2000
Platforms: PC (Windows, Mac OS), PlayStation 2
Genre: Action Role-Playing
Commercial game for a technology- and game-loving audience.

Fig. 12: Screenshot of *Deus Ex*. As a member of an anti-terrorism unit, the player begins to question his own mission and ultimately joins the opposite side.

Narrative Setting: The plot of *Deus Ex* (Eidos Interactive, Ion Storm Inc. 2000, fig. 12) is set in a future where the world economy is on the brink of collapse and social security systems are largely crashed. Terrorists operate openly, and a worldwide epidemic threatens humanity. The player begins the story as a member of an anti-terrorist unit that sends him into combat. Throughout the course of the story, the protagonist has doubts about the legality of such missions. He comes to realize that he works for a ruthless and power-hungry organization that has contributed to the spreading of diseases for economic purposes. Finally, the player switches sides and fights against his former employer.

Gameplay: *Deus Ex* is a first-person shooter. The course of the game is linear in so far as most of the game objectives are predetermined. The game system and the design of the game environments on each level, however, are laid out so as to offer the player different ways of achieving these goals. This fact is also important with regard to ethical decisions. On the one hand the military missions can be fulfilled in ways typical of the genre, by engaging in direct conflict with the opposing characters. However there is also the opportunity to fulfill the missions peacefully. Generally this would involve negotiating the game environment in ways that allow him to get past his opponents. Such an approach confronts the player with other tasks and challenges, such as solving riddles to open locks, or studying the behavior of the guards to find a suitable moment to slip past them unnoticed.

Ethical System: The game mechanics of *Deus Ex* doesn't assess the player's strategy in terms of a single parameter representing ethical behavior. There is therefore no system of reward or punishment. The game focuses the ethical dimensions of the player's action on the narrative level. For example, the player encounters the brother of the protagonist, who pressures him to fulfill the mission without violence. Furthermore, the protagonist begins early on to doubt the legality of the missions. The player cannot abort the missions himself and find new goals, but the character's emerging doubts (such as, "Am I fighting on the right side? Are the people I'm fighting actually my enemies?") may lead him to reconsider his approach.

Deus Ex engages ethical choices by means of a multiple-choice dialog system. The player is confronted with such a choice at the end of the game, one that will determine the future of the society. A decision has to be made between three specific options: Should social development continue as before, should global anarchy take over, or should the current state of affairs be superseded by the global dictatorship of an all-knowing computer system? This is the final choice that is available for the player, and so its impact is limited to a non-interactive epilogue.

4. Conceptual Components of a Serious Moral Game

Drawing from the preceding chapter's descriptions of current video games that include mechanisms for engaging ethical questions, in this chapter we will present and discuss possible components of a Serious Moral Game. These components involve both general aspects such as the gameplay, the game rules, and the fictionality of the game, as well as specific elements of the setup like the gameplay's narrative embedding, the player guidance, and typical visualizations (e.g. appearance of the game character, the environment, etc.). This gives rise to a number of criteria that have to be considered when designing a Serious Moral Game.

Gameplay 4.1.

Player Decisions and Consequences 4.1.1.

Based on the insight that concrete game worlds are based on both fictional elements as well as rules, Jesper Juul has created a three-part categorization of all possible game elements. This classification has to do with whether a particular game element belongs to the level of the game rules, to the level of the fictional world, or to both (Juul 2007). Juul's model can also be applied to the consequences of a game action. Accordingly, a game can respond to and provide significance to game actions in three different forms:

1. In a purely fictional or narrative form that has no direct effect on the gameplay.
2. In a purely abstract form that affects the gameplay directly.
3. In a form that is part of both the narrative as well as the gameplay.

All three variants are present in the games analyzed earlier, in which most ethical decisions have consequences that affect the narrative as well as the mechanistic elements of the game. Only a few contain elements that are exclusively evaluated on one level. An example of a decision with only narrative consequences is that which awaits the player at the end of *Deus Ex*: the ethical dilemma illustrates how none of the solutions on offer can guarantee the future of the society by themselves. Regardless of how the player behaves, his decision has significance only on the fictional level, since a non-interactive epilogue will follow in any case. This situation is thus comparable to an ethics test: the decision has no effect on the gameplay, and is not informed by strategic or tactical considerations. The only difference is that the consequences are narrated as part of the story. This means that the choice of certain game ending may not necessarily be based on ethical criteria, but might also be motivated by other factors like curiosity.

Decisions that manifest themselves only on the level of the gameplay

cannot really be seen as ethical decisions, since an essential prerequisite for ethical game choices is that the actions have narrative-semantic import. Thus, those of the cited games with consequences only at the level of game mechanics wouldn't involve ethical decisions, strictly speaking. But there are some decisions that are primarily evaluated on the level of the gameplay, and thus whose consequences will have hardly any narrative significance. This is most clearly the case with the game *PeaceMaker*. Admittedly there is a narrative embedding of game actions that is of great importance in the game, since only this allows the player to consciously make decisions. However, there is no narrative space provided for the consequences of the decisions. A player that plays incorrectly by making decisions without regard for the opposing parties does not experience a different story, but rather loses the game and has to leave. The difference from an ethics test is relatively small, since by not giving the players the possibility of shaping the narrative, in its form *PeaceMaker* is itself a kind of test. In contrast to an ethics test, however, there is a correct solution; the task of the player is to figure it out, to solve the riddle, without questioning that solution himself. For this reason, Crawford (1997) maintains that *PeaceMaker* it not an actual video game, because a game – as opposed to a riddle – offers the player more options regarding the solution to the problem.[30]

When it comes to the development of a Serious Moral Game, the decisions that are of most interest are those that have consequences for the game mechanics as well as for the narrative. The majority of the games we've discussed involve such decisions, and they produce situations that are essentially different from those of a common test. In such games the player is often faced with decisions that are indeed linked to an ethical question, but they don't confront her with an ethical dilemma.

This is most evident in the game *Bioshock*. Here, the player is faced with a decision in which the options for action are so clearly opposed that there is no difficulty in evaluating them according to ethical criteria. In

30 "The key distinction between a game and a puzzle is the difference between creating your own solution and discovering the designer's solution. A game acknowledges the player's existence and reacts to the player's personality; a puzzle lies down like a dead fish" (Crawford, 1997: 12).

Bioshock it's not a case of values or normative systems coming into conflict over the right assessment; quite the contrary, in fact. The "Little Sisters" whose fate the player has to decide are mutants that look somewhat like little girls. It would defy all conventional understandings of virtue to kill these creatures in order to get as much ADAM as possible. The question "should the player kill a little girl or sacrifice a part of the reward?" is staged almost as a caricature of an ethical dilemma: one of the choices so manifestly wrong that not only must the player clearly reject this option from an ethical point of view, she also knows at the same time that the game expects her to do so. And yet the decision is nevertheless interesting for the player, as it confronts her with a conflict between an action that is clearly right ethically but carries a technical disadvantage, and an action that is ethically unacceptable but would nevertheless provide a benefit. Ethical and strategic-economic considerations collide and give rise to a conflict situation distinguished by the fact that the conflict is made explicit. The decision is thus embedded in a continuity of game actions that also allow for strategic decision-making criteria to be brought in, which is usually not the case with most tests.

In *Bioshock* such strategic criteria have great importance: it is a game in the classical sense in that it has a goal and can be won (Salen & Zimmerman 2004), but "winning" means here "playing to the end". Only one who plays successfully is capable of carrying the course of the game forward and experiencing the whole game. Failure means remaining stuck in the mostly linear course of game events, and not being able to experience the whole narration. Additionally, the more ADAM the player accumulates the more abilities she develops: she becomes more powerful, the strategic possibilities grow, and the game becomes more richly varied. Thus, in *Bioshock* the ethical decision criteria not only compete with strategic considerations, but also with narrative and exploratory criteria. All of these decision criteria require the game to be based on more than a single decision situation, but rather to be carried along further with each decision having its own consequences.

4.1.2. Ethical Decisions are Part of the Game Experience

The conflict or dilemma with which the player is confronted is what makes the decision interesting for her, but it's this combination of narrative and mechanistic consequences that make it significant. This does not simply apply to *Bioshock*, but also to games whose mechanics do not manifest themselves in terms of an abstract point value such as ADAM. In *the Witcher* or in *Fallout* 3, the decisions in the game have far-reaching consequences that are experienced as part of the story but also have great importance on the level of game mechanics. Whoever antagonizes a certain character has to fulfill tasks without its help; thus she has lost an important partner as well as a safe haven, and may even have made a new enemy. Even in *Façade*, which is defined as "interactive drama" and does not have an explicit game goal, the consequences of a decision are not exclusively in terms of the narrative. Every decision affects not only the course of the story, but also the further possibilities of the player in that they continuously change her position within the social context. It's also through these lasting consequences that the actions gain significance within the gameplay.

In contrast to a test, decisions within these games are an essential part of an interactive process that gives the player the option to perform actions that have a significant impact on a situation or even on the course of the game. This is the core element that allows a video game to promise the player meaningful decisions, and so creates new interests for her within the game (Salen & Zimmerman 2004). Thus the task of the player is no longer limited to making moral judgments; rather, she is asked to weigh different action criteria in which the ethical choice is only one possibility among other criteria, which after all is typical of ethical decisions in everyday life. Thus, the difference between, on the one hand, a simple decision of the sort that occurs in a test or test-like game as primarily an isolated event, and a decision in a game situation on the other, lies also in the player's motivation, since she must deal with the further consequences of her action. The game action makes ethical decisions a part of the game experience within the virtual world. Since it is ultimately up to the player whether to act according to ethical criteria at all, the problem arises as to whether the player's decisions can be assessed with respect to moral agency, and fall within the realm of empirical moral research questions.

Game Rules 4.2.

Game Rules as "Game Morality" 4.2.1.

Game Rules are the foundation of every game and therefore also of every game action, since it is the normatively fixed rule system that establishes what is allowed, forbidden, or required; that is, the rules determine the "morality of the game". This is the case with analog games, where a violation of rules leads to the game being compromised as a whole. It applies also to the video game, which likewise does not allow for rule violations, but here the rules are not usually spelled out. Rather they are part of the program code and define the possibilities and limitations of the player implicitly; that is, the program does not prohibit certain acts, rather it simply does not enable "forbidden" ones. When it comes to these game rules, a player can assume that what is possible in the game is thereby permitted (Rollings & Adams 2003).

Some video games even automate certain of the player's (or his character's) moves, and thereby take over the decision. When a character's actions are automatic rather than initiated by the player, the issue of whether a moral orientation is the impetus does not arise. But what is interesting in this regard is their possible influence on the moral agency of the player. Does the player temporarily adapt his ethical values to these automatic actions? Such actions can also define the role of the character or bring it into situations for which the player, as the character's controller, has to take ultimately responsibility even without having prompted the decision.

Even when the rule system of a game is hidden, it has a substantial impact on the game play. This is especially so in those games whose rules the player would rather disregard or in games that entice players with claims about a high degree of realism and freedom of action. Indeed, what Baudrillard (2000: 94) says about games in general applies particularly to these sorts of games: "The game does not release us from constraints (since we accept the – much more stringent – constraints of its rules), but rather from freedom."

Since rules define what game actions are permitted, they have a special relation to a possible ethical dimension of a game. Both ethical conduct and acting according to the established game rules are behaviors within a normative system. Another similarity, as Miguel Sicart notes, is that a player must not only accept the rules and follow them, but in a successful game these rules become internalized (Sicart 2005). In other words, the game rules are not simply policies that are promulgated to the player, dictating what he has to do; it's more a matter of the player voluntarily exposing himself to this system and embracing it. So during the course of the game, the game rules come to be more than just a law, but a kind of value system as well. Some authors, such as Klaus Spieler, echo these thoughts when they recognize in those policies the ethic of the game.[31]

This leads to the question of how the relationship between these two normative systems can be assessed. When game rules have absolute claim to validity within the game and are internalized as a value system, is there room for another normative system at all? How could a game system along the lines of a Serious Moral Game be developed in a way that allows the player to call the justification for an action into doubt, or at least assess it? And how can it do this despite the fact that the player voluntarily inhabits a system defined by its licensing of this action, and that any action that he wants to perform can only have an impact in and for this system?

31 "Values are contexts of significance. Therefore, it is not primarily a question of producing them, but negotiating within the community what values obtain and where, and how essential it is for members of the community to follow them. This includes a system of sanctions to be used both positively and negatively to reinforce these values. Do games offer such certainties to the players? Their charm might possibly lie in the fact that they offer greater certainty than the other life. In general: Games have rules, and these are, if we can put it this way, their ethics" (Players 2009: 87).

Congruence of Game Rules and Ethics 4.2.2.

An easy way to incorporate an ethical system into the game, in addition to the rule system itself, is through a direct connection between rules and ethics. This could be established, for example, through a simple correlation in which the player must behave in an ethically correct way or else be eliminated. *XIII* (Dargaud, Ubi Soft 2003) is a game that makes partially use of such congruence between rules and ethics. The player must abide by certain ethical rules as a secret agent, otherwise he will be punished. A weaker variant is also possible in which the player is punished for unethical actions or is rewarded for an ethically valuable action. It can also be the predefined goal of the game to act in the ethically correct way. In all variants, it is up to the player to figure out which action corresponds best to the value system of the game. The player is therefore tested in his ethical judgment; in fact, each of these variants is rather a kind of test, which also means that they fall short in terms of potential possibilities for a Serious Moral Game.

Open Game Systems 4.2.3.

A further way to make space for an ethical system is by using an open game system design, one that allows the player to modify the rule system himself. Players, it seems, are generally open to performing such modifications: If games don't have an intrinsic goal or explicit tasks, players tend to set and define their own goals and tasks.[32] This is in principle analogous to real-life situations, where people attend to a task creatively, setting not only a clear goal, but also the rules that need to be followed in order to reach it. Even in games that already have a clear objective, though, one can observe how players expand or complement the existing rules by searching for new ones than can heighten the excitement of the game. We discussed an example of this in the previous chapter: the rules in *Globulos* are modified when players deliber-

32 Computer games without a real game goal are often called "toys", which includes open simulation games like *The Sims* (Maxis, EA Games 2000). These games have no real game goal because they can be played endlessly or don't evaluate the results.

ately forego exploiting the advantage gained when an opposing player leaves the game early. It is an unwritten or implicit rule (Salen & Zimmerman, 2004), and adherence to it is voluntary in *Globulos*; yet within the social framework it is established under terms of fair play. Players who do not abide by this unwritten rule are admonished by their fellow players.

Just as in *Globulos*, the game system of a Serious Moral Game should establish an objective that provides a motivation to play, but one that isn't exhausted by the desire to win; rather, it should also assess the way one attains the goal. It is then up to the player herself to decide how exactly to pursue her goal and what additional rules and responsibilities she will regard (e.g., to play considerately or efficiently, without losses of her own, to reach the goal of the game in a few moves, etc.). A virtuous player might for example find more joy in winning in an "elegant" way: "The virtuous player will try to win by playing virtuously, using her ludic phronesis to assess the strategies and choices made" (Sicart 2009: 119). But the game itself can have an influence on the process, by addressing certain game aspects and suggesting specific game management. This can be clearly seen in the games we've analyzed, which, contrary to *Globulos*, are not played in multi-player mode and thus lack the admonishing co-player. In these the posing of ethical questions becomes a theme of the game, by breaking with conventions, say (*September 12th*: innocent victims among the civilian population), or even breaching taboos (*Bioshock*: killing children). In *Bioshock*, *InFamous*, *Deus Ex* or *Fallout 3* one is reminded by NPC characters to adhere to ethical values and to act accordingly. With that a second rule system is established in addition to the game rules, one that is based on ethical criteria.

Fictionality 4.3.

Most ethical tests, as well as most ethical games with an objective game world, describe fictional events. However, the fictionality of events often possesses different qualities. A test, for instance, offers a description of events with enough flexibility to enable the subject to put herself into a different situation, but not enough to empathize with a new person. As the foregoing examples show, games with an objective game world ascribe great importance to fictionality. In many games it is an essential aspect of the player's motivation (Crawford, 1997), because it also sets up the avatar as a representative of the player in the game world. The game invites the player to enter a new world and at the same time to take on a new role (Rouse 2000). The term "role-playing" describes one of the most prominent game genres in which players can create their own character by defining various attributes such as age, gender, appearance, or origin. But role-playing is an essential constitutive element of many video games as well.

Game as Role-Playing 4.3.1.

In 1958 Roger Caillois applied himself to the classification of games in terms of play itself (Caillois 1958).[33] This classification describes four forms of play: Agôn, a form of competitive play that is concerned with winning; Alea, a form of play that is based on chance; Illinx, play on sense impressions and feelings like dizziness, speed, exhilaration, etc.; and Mimicry, which involves playing a role.

These are not mutually exclusive categories, since different forms of play can occur together. An essential strength of the video game medium indeed lies in the merging of several of these forms of play. Thus the video game is not just a digital extension of classical games based

33 In English, the distinction between "Play" and "Game" is clearer than in the German, which uses the same term ("Spiel") for each.

on Agon or Alea – card games, board games, dice games, and the like – but it also ends up being in the legacy of those other forms of play, Illinx and Mimicry. Salen and Zimmerman (2004), two famous game theorists, point out that video games give the player the option to act as or to pretend to be someone else, which is an aspect of Mimicry. This includes playing according to one's own personality or with an adopted one.

An important issue for constructing a Serious Moral Game lies therefore in the fact that ethical decisions sometimes depend on the particular role of the player and can even be predetermined by this role. This is most evident in those games that give the player the opportunity to play a character with a particular ethical disposition, that is, a character substantially defined in terms of which ethical values it has. This is because the point of this game is precisely to have the player act otherwise than she normally would, having adopted this role. *Fable 2* and *InFamous* illustrate this fact, as one can adopt either a "good" or "evil" character. And these two games are not isolated cases, since role-playing games that offer the player different ethical dispositions are typical of games with moral choices. Even the forerunners of digital role-play, the so-called "pen-and-paper role-playing games"[34] raised the theme of ethical dispositions to a central game element by offering the choice of a specific ethical action for the character at the beginning of the game. This commitment to a particular disposition defines, for example, whether and under what conditions a character would lie, steal, or kill an enemy during the game, as well as how it generally stands with respect to the rules and laws. Since a player in a pen-and-paper role-playing game is largely free in her game actions, the particular attitude forms a kind guide for action. The game master (that is, the referee of a pen-and-paper role-playing game) can also prohibit certain actions

34 A pen-and-paper role-playing game is a mix of board game, narrative, and drama. It is moderated by a game master, who lays out the framework of action and acts as a referee. Players assume fictional roles by determining the actions of one character and making decisions for him. The extent to which these verbalized actions are successful, and the impact they have on the game world and the course of the story, is determined within a specified control system utilizing dice. In addition to the way a player defines his character's appearance, the character is also defined by a set of numerical values that stand for physical and mental skills and abilities, which then impact the outcome of actions.

if they don't correspond to the disposition of the game character.[35] In *InFamous* there is no game master who knows how the player has to behave in ethical situations; but the game rewards a consistent game management, thus promoting the adherence to a well-defined role.

Fictional Freedom 4.3.2.

Even in games where no specific ethical disposition can be connected to a character, it is possible to use the element of fictionality to deliberately act contrary to one's own ethical convictions. Thus the game designer Chet Faliszek suggests that a game decision can never really amount to a meaningful ethical decision (which would also apply to decisions made within an ethical test), since the player does not have to take responsibility for consequences in real life, and the decisions have no effects outside of the game: "There's never a real moral choice you're ever making in a game, because you're never going to have to live with that choice".[36] The plausibility of this point can be disputed, however, if one thinks, for example, of multi-player games, where players have to cooperate and a game decision may well have real-world effects (on the reputation of the player, for instance). Regardless, a fundamental problem for the development of a Serious Moral Game lies in the fact that the player is allowed a fictional freedom that encourages her to test out new roles with the assurance that her actions have no consequences in the real world. This is ultimately a characteristic of a game that to a certain extent defines a protected, experimental space where actions can be taken without having consequences for the world outside (Apter 1991). This problem arises especially when the Serious Moral Game is implemented in a form other than that of a test, and yet like a test it is still intended to lead to results that can be evaluated and displayed.

35 The pen-and-paper role-playing game Dungeons & Dragons (TSR, Wizards of the Coast, 1974) offers, for example, the following dispositions from which a player can choose: lawful good, lawful neutral, lawful evil, chaotic good, chaotic neutral and chaotic evil.

36 Chet Faliszek, "Games Do Not Have Moral Choices." http://www.destructoid.com/valve-games-dont-have-moral-choices--141928.phtml (accessed on 23.06.2011).

4.4 Narrative Embedding

In a Serious Moral Game that is based on a continuing storyline rather than being limited to a single decision context, the game time can be utilized to work out a complex narrative setting. This can be done, for instance, with a detailed backstory or with cut scenes. Such possibilities raise the question of whether and how the narrative setting of a Serious Moral Game can influence ethical decisions.

4.4.1. The Type of Narrative Setting

The games included in the analysis deal to a large extent with fantastical worlds and events. The previous section highlighted the fictional freedom that gives a player the option to ethically "refashion" him or herself. Of course this does not automatically show that game worlds of the fantastical kind offer greater fictional freedom of action than realistic ones, or that games that deal with supernatural events suspend ethical decision criteria more so than those with a realistic setting. It is not the realism of the narrative that counts, but the realism of the issues that are engaged in the storyline.[37] Most of the game worlds we have been describing are not only of the fantastical kind, but are also laid out as dangerous and dystopian worlds in which social structures are largely destroyed or only marginally present. These often portray cultures that have been abandoned or stand in peril. This is the case

37 "What matters is not the realism of the narrative but the realism of the problems that it raises. By recasting common problems in a virtual world the player has a chance to work through them and experiment with different outcomes without actually having to live with consequences of a bad choice." (Marcus Schulzke, "Moral Decision Making in Fallout." http://gamestudies.org/0902/articles/schulzke, accessed on 23.06.2011).

not only for the games listed here,[38] but also for most of the settings of today's video games. According to Crawford, a central function of narrative settings is precisely to present a world that is largely free of value systems and normative structures, and thus allows a freedom of action appropriate to the game mechanics. Accordingly, many games erect ambiguous and "broken" heroes, occupying roles that would be marginalized in real world social communities (Crawford 1997).

A somewhat rare counter example to such settings is provided by the game *Façade*, which depicts an everyday environment and confronts the player problems of that sort (a relationship conflict in the home of a friendly couple). The game world of *PeaceMaker* also departs noticeably from the usual grid, because although the chosen setting is the scene of dramatic events, it becomes difficult to consider these events as purely fictional due to the specific assignments and the media presentation (using real images and video material).

4.4.2. Narrative Setting as a Normative Framework

An analysis by Kocher, Bauer, and Suter (2009) of the games *Doom 3* (Acstivision, id Software 2004) and *R-Type* (Irem 1987), which offer the player no ethical choices, shows how strong the interconnection between the narrative framework and the value system of a video game can be. In their settings the two games resemble the classic game *Space Invaders* (Midway, Taito Corporation, 1978): a battle must be waged against an invasion by an extraterrestrial aggressor. This applies, however, only on the narrative level. On the level of game mechanics it is actually the reverse, as it is the player who invades the space of the enemy and represents the actual aggressor. This is the case especially in *Doom 3*, where the player fights his way more and more deeply into a labyrinthine game world, eliminating everything that stands in its

38 Namely: *Fallout 3* (post-apocalyptic world), *InFamous* (urban areas destroyed, violent gangs, outbreaks of disease), *Bioshock* (lost underwater city, people addicted to drugs, mutant people), *The Witcher* (bloody war), and *Deus Ex* (economic collapse, widespread terrorism, outbreak of global pandemic).

way. As the authors observe, this campaign of destruction must first be narratively justified: the opponents are presented as demonic aliens, the player is presented as the savior of mankind, and his brutal acts are excused as the following of military orders (Kocher et al. 2009). Both the logic of the game mechanics and the adherence to the goal of the game are narratively supported. *Doom 3* proves to be a closed system with norms and values that are not negotiable. The player can neither doubt the goal of the game nor, as in some of our other examples, question his actions ethically. *Doom 3* does not permit ethical choices, and the narrative setting is chosen so that there is no room for such considerations.

By contrast, the game *Deus Ex* is based in a very different setting. At its core the same mechanisms can be used, but these are extended by various elements that are especially pertinent to ethical choices. Here too there is a clear initial threat, in this case a group of terrorists; the player is also engaged in a military mission as part of an anti-terrorist unit. This framework is soon upended, as the game's plot compels the protagonist to switch allegiance and move over to the opponent's side. This change does not happen as part of the active gameplay, but belongs to the linear aspect of the narrative. There are no ethical decisions to make, and yet the previously established value system is put into question. Not because the player fights now on the opposing side and "good" and "evil" are reversed, but because these black and white values are exposed as only relative or tentatively valid. Consequently, after the sensitization ethical choice possibilities are available.

4.4.3. Narrative Priming- and Framing Effects

Thus the narrative setting has importance for the ethical game mechanisms. It's not just the particular event itself that might have a role to play in game decisions, but the way that event is staged and contextualized. The story of a game doesn't just elicit ethical decisions; it can also establish the ethical value system itself and influence the player. According to Salen and Zimmerman (2004), the normative framework also depends on the particular genre of story - at least if the player is

familiar with the relevant conventions of the genre. Salen and Zimmerman refer to *Grand Theft Auto 3* (Rockstar Games, Rockstar North 2001), and discern a certain kind of freedom of action for the player that derives from its association with the pulp genre.[39]

The conscious use of narrative settings as a normative framework, therefore, gives a Serious Moral Game the opportunity to examine priming and framing effects.[40] And variability in the game can lie in different backstories and different narrative cut-scenes, which prepare and sensitize the player in different ways for ethical decisions.

39 The English term "pulp" originally referred to the so-called trashy and popular literature, whose typical contents and illustrations later founded its own genre name.

40 "Priming" refers to the subliminal activation of associations (for example, when the answer to a question affects the answers to the following questions). "Framing" refers to a decision that is dependent on the way a problem is presented.

4.5. Player Guidance

In software development, the term "usability" refers to user guidance. The operation of a program should be enabled and facilitated for the user; in addition, the user must be familiarized with the system and guided through the program. Since video games are software programs, and because the game mechanics are at times quite complex, the games usually include some form of intentional user guidance, or in this case player guidance. The question relevant to moral agency is whether and to what extent this guidance interferes with the decisions of the player.

4.5.1. Games as Abstract, Formal Systems.

Each game is based on a system that is, in itself, abstract and formalized, and which defines the functionality of the game and the possibilities for the players. This applies even to those video games that promise a realistic environment and the greatest possible freedom of action; they merely succeeded in hiding this system for the most part. The distinctiveness of digital games does not lie in the substantial freedom of action they actually offer – the opposite is more accurately the case (Salen & Zimmerman, 2004) – rather in the illusion that such freedom of action is possible (Juul 2007).

An important decision criterion for game action, then, has to do with which actions can be feasibly performed within the game. After all, the performance of an action depends essentially on whether the player thinks such an action is likely to be possible in the game. That is, a player would not decide on an action if it was clear to her that it was not available within the game system, or at least she would hesitate if she thought it unfeasible.

In principle, the question of the feasibility of a game action belongs to the realm of the game rules, as those define the space of possibility for game actions. With most analog games, it is assumed as a prerequisite that the rules of the game are known and their application has been explained; therefore the question of the theoretical possibility of an action does not arise. But in a digital game the case is different, since a significant part of the interaction with the game is a matter of testing whether the game system accepts and responds to a player's action. The game rules are also not under the physical control of the real and present participants, but lie invisibly at the level of the program code (Juul 2003). This results in constant questioning about which options are actually available for the player. Such is the case especially where there is a stark difference in the degree of abstraction between the fictional representation of the game world and the game system's rules; in other words, it applies in particular to games with a high degree of realism.

Related to this, Claus Pias (2002) describes the digital game as a kind of compatibility test between human and machine. Both parties have to adapt to one another. The computer must become "human-like", which is to say it cannot act as it would with another computer as its opponent; rather it has to provide graphics, sounds, etc. to guide the user. But the human also has to become "machinelike" in that it has to understand the logic on which the game is based. The player thus interprets the particular game situation in terms of her options for action, and this interpretive behavior is of especially great importance when it comes to ethical choices.

One example: In debates over the protection of minors, developers of action and fighting games pointed out that not every possible battle within a game has to be fought; rather, conflicts can literally be avoided. This argument is often brought up to show that an action game does not inevitably demand violent game play, and that the player can also choose ethically acceptable actions. In order for such an action to be considered at all, however, one not only has to draw out the appropriate motivation; the action has to be considered feasible as well. In a case of eluding an opponent this question is not easy to answer – the player has to assess whether the artificial characters that are controlled by the computer can be fooled. The characters may be human or human-like beings, but that does not mean they also behave as such. A strongly

simplified logic underlies their behavior, and therefore it is a question of programming whether they react to sounds and visual contact, or whether the player positions are always known.

There are games where the player is always informed about the whole spectrum of available actions. This applies to games that are somewhat rudimentary (e.g. *Pong*), or to those that, while complex, are based on a game system that is transparent to the player in its formalization (e.g. strategy games where the game principle presumes knowledge of all possibilities for action). But for games that promise the greatest possible freedom of action or those that constantly bring the player into new situations – and both are actually good candidates for the development of a Serious Moral Game – the question inevitably looms as to which options for action are viable. There are different variants on how a Serious Moral Game can deal with this question.

4.5.2. Explicit and Implicit Player Guidance

One of the possibilities would be to explicitly explain and lay out all options for action. This can be done in the form of a multiple-choice dialogue system, as is the case in adventure games, for instance.[41] Here one has to decide between different actions, but cannot propose them independently. One has to weigh the specific options that are proposed without needing to come up with one's own.

Another possibility is to offer implicit suggestions as to possible game actions. In many current games the possible actions are not laid out explicitly, but rather narratively or figuratively. A character holding a weapon in her hand, for instance, clearly suggests a certain scope of action. A question then arises with regard to moral agency, whether this suggestion might at the same time be interpreted as imperative,

41 *Bioshock*, *Fallout 3*, *The Witcher* and *PeaceMaker* follow this model and enable ethical decisions primarily through a multiple-choice system.

prompting the use of the weapon.[42] In a sense, the implicit cues are metaphors for the abstract mechanisms that underlie the game, and as such they contribute to the elucidation of the game system and its functionality. They offer guidance and express expectations. But metaphors are always also systems of thought, and so inevitably provide the player with more than just a neutral suggestion as to the scope of action.[43] Could the implicit suggestion not at the same time to be understood as an injunction to carry something out?

The problem of player guidance with regard to ethical choices is evident in *Bioshock*. *Bioshock* uses implicit as well as explicit cues to indicate possible actions in a way that confronts the player with an ethical decision. For instance, the first encounter with a "Little Sister" is accompanied by another person, a scientist who talks to the character and vehemently exhorts him, with begging and pleading even, to kill the girl. This intervention does not aid the player in ethically evaluating both options; instead it is more a matter of clarifying to the player that an ethical decision is now at hand. This is the implicit suggestion of a possible action, since it happens on the narrative and metaphorical level. Additionally, in *Bioshock* there is an explicit cue on the visual level of the interface. A display message suddenly pulls the player out of the gameplay and informs him in the text commentary: "Decide whether you want to exploit or rescue "Little Sister". If you exploit her, you gain the maximum amount of ADAM, which you can then exchange for plasmids. However, she will not survive this procedure." This rather unsubtle message, which is not part of the game world itself but, like the game rules, operates on an abstract meta-level outside of it, ensures that the player knows the which options are available. From the perspective of a Serious Moral Game, however, there is the problem that by offering the player such binary options, the game stresses that a fun-

42 The possibility of action as well as the imperative of action are considerably enhanced through the interface, e.g. an ammunition display or cross-hair.

43 The use of metaphors has received a great deal of attention in general software development in terms of theoretical and practical user-friendliness, but has received far less discussion within game design. But computer games are also programs where the user interface plays an important role. The development of virtual worlds and the concretization of game actions ultimately function analogously to familiar software metaphors, such as "Desktop", "Trash" and "Firewall".

damental decision must be made. The player is thus prompted to think about the options and ultimately make her choice, but that does not amount to an independent action.

4.5.3. Genre Conventions and Foregoing Player Guidance

In addition to player guidance using implicit and explicit suggestions, options for action can also be communicated by limiting them to genre conventions. In the example mentioned above, battles can be avoided when a player is able to assess his options for action out of a familiarity with the game genre. He then relies on conventions, standards, and experiences gained from other games.[44] Such a reference to other games is almost impossible for a Serious Moral Game: on the one hand, the game could only be addressed to players familiar with such media; and on the other hand, the goal of the game should precisely be to make alternative options available for consideration.

Foregoing both suggestive cues and genre conventions altogether is at least theoretically possible. But then the problem of evaluation arises, since in all likelihood some actions that are preferred for ethical reasons won't be implemented. The example of *Façade* shows this: its game mechanism is based on dialogues between the player and non-playing figures, yet its distinctiveness certainly lies in the fact that it consciously avoids the constraints of a multiple-choice dialogue system. But as a consequence of the freedom of action this affords the player, she is never sure which of her entries will be understood by the speech recognition system and thus be meaningful in the game. Each of the proposed possibilities has, therefore, specific advantages and disadvantages that have to be reviewed in terms of the particular game decisions when implementing a Serious Moral Game.

44 In most of the latest first-person shooter games, the possibility of evading an opponent is an essential game mechanism. This is even given rise to a distinct subgenre called "Stealth Games".

Forms of Presentation 4.6.

Ethical tests standardly present their situations in a way that is succinct and rather prosaic. The protagonists lack any distinctive appearance or concrete description. They forego presentations with evocative character in favor of describing situations as abstractly as possible and without unnecessary embellishment, being concerned primarily with the description of the problem itself. A Serious Moral Game has to break with this convention once the relevant situation becomes part of a virtual world, which is itself an audiovisual creation. The change of media brings with it an inevitable concretization.

Implications of an Audiovisual Implementation 4.6.1.

In their audiovisual representation, characters can be provided with attributes like looks, age, gender, etc., and possibly other details like social status, sexual preference, disability, etc. This evokes in the player impressions such as "likeable", "attractive", etc. These impressions could have an influence on the player's decision, but is this desired in a Serious Moral Game? To forego an evocative level would require the development of an audiovisual approach that, for instance, does not present people at all or that displays the whole world in an abstract and stylized form.[45]

On the other hand, a largely realistic and detailed presentation can be used to limit imaginative space; that is, when the manner of representation is quite explicit, the players might rely less on their own idiosyncratic imaginations. In this way, a concrete audiovisual presentation can help ensure that the basis for decision-making carries similar evocative elements for all players.

45 Of the analyzed games only *September 12th* and *Façade* pursue this direction and use a cartoonish or abstracted visual style.

4.6.2. Different Forms of Presentation

The concrete development of game characters could also be used in the opposite way. To produce added variability, one could allow for specific differences within individual rounds: looks, age, and gender could be determined through adjustable parameters with which the player interacts. The individual rounds might then show which factors influence an ethical decision. In *Bioshock* the player has to make decisions about the life of little girls who hide away, frightened and crying. How would the player decide if he had to deal with another kind of being, or if the "Little Sisters" appeared differently?

Moreover, the presentation itself can be understood as a variable; for example, it can have various degrees of abstraction or use different perspectives. How would game decisions be influenced if *PeaceMaker* did not employ real image and video material, but fell back on simple text messages? *September 12th* provides another interesting example here. During the game the player observes the events from a distance. This distance is sonically shattered by realistic wailing as civilians mourn the victims. The noise is striking because it is untypical for media, and because it stands in marked contrast to the visual animation style. *September 12th* plays expertly with media and perspective shifting: the player gets involved what seems to be just a short game,[46] but through this shift she is then snatched out of the original setting and abruptly confronted with the consequences of her behavior.

4.6.3. The Choice of Presentation

The relation between forms of presentation and game behavior has been covered only briefly here. But it should be manifest that conceptually as well as technically different forms and styles of presentation are possible, and these possibilities would need to be extensively discussed in the development of a Serious Moral Game. For one thing, they determine the evocative level of a game and thus directly influence the decision-making process. Moreover, they form the basis for communication between game and player, and have a great influence on how a specific situation is received. The form of presentation determines whether the player understands what the particular situation is about and whether he can assess his options and their potential consequences. We stress these points because most games these days that use ethical decisions as game principles strive for a largely realistic visualization of the game world. This applies to all the games we described, with the exception of *September 12th* and *Façade*. But a realistic form of presentation does not necessarily reveal options for action and the functionality of the games with perspicuity. An abstract or stylized form of presentation can often show the scope of action more clearly than a more realistic one, especially given that, at the end of the day, the game mechanism that defines the scope of action is always an abstract, formalized entity. Furthermore, a realistic audiovisual presentation reaches its limits in the representation of persons along with their verbal and other forms of social interaction: the artificial personality of a character is, to a certain degree, unavoidable.

When choosing the manner of presentation one should also consider that the audiovisual presentation of a virtual world requires additional efforts from the player, like orienting himself in a 3D environment or visually scanning the screen. Here one should consider whether those efforts would distract from the essential game mechanism – the ethical decisions – if, say, those are supposed to be undertaken by a test person who is not very familiar with video games.

46 *September 12th* has the form of a so-called "casual game", i.e., a simple game for here and there, which is readily available and promises exciting entertainment without a lengthy learning phase. It is played directly on an Internet browser.

4.7. Possible Design Elements of a Serious Moral Game

4.7.1. Dealing with Variables

Tests present ethical dilemmas in ways that are mundane as well as isolated, so that the test subject attends only to the ethical problems themselves, with no other interests or motives interfering in the ethical choice. Such structural clarity could hardly be part of a Serious Moral Game, since alongside the ethical level, there are invariably a host of other factors that motivate the player in different ways and thus influence his decision. A game like *PeaceMaker* has a clearly formulated goal that inevitably induces game actions oriented according to strategic and economic criteria. The player develops the most efficient strategy given the rules, one that strengthens his own advantages and minimizes the disadvantages. However, a game that can neither be won nor lost, and thus does not have an actual goal, invites experimentation, as in the *Fable 2* example; in this case most game actions emerge out of curiosity. How can a player's decisions be evaluated in terms of moral agency when it is unclear whether a player acts exclusively on ethical considerations?

This question points out a problem that can never be totally resolved, as it lies in the nature of every game to exceed the simple test in complexity and not be reduced to a single motivation. And yet this circumstance can be seen positively, and the complexity of games as an advantage, given that real life ethical questions do not occur in isolation either but are surrounded by other motives intermingling, strengthening, and competing with them. From this perspective a Serious Moral Game can help bring ethical questions out of the artificial sterility of a test and into a context that more closely approximates reality. But that clearly does not solve the problem of evaluation.

4.7.2. Control Parameters of a Serious Moral Game

A Serious Moral Game could face the obvious problem of evaluation through "control parameters", which would make the evaluation less about absolute statements than about comparisons. And a video game is inherently suited to settings with modifiable parameters. Moreover, parameters that are based on numeric values (e.g., time limits for decisions) are obviously easier to implement than complex elements that have to be varied or changed around (e.g., variations in the narration). Since the latter cannot be implemented as mathematical variables due to their special design, they also cannot be continuously adjusted.

These parameters can have a global effect, which means they concern the game as a whole. Such a parameter may be, for example, the time that elapses during the course of a game. A game might be played one day with time pressure and one day without, and the results compared. In this case time pressure would be the modifiable parameter that enables the comparison. And this variable could also be defined along with certain restrictions, as playing a role only in a particular decision situation for example. It is also possible to define a global control parameter that directly concerns a "morally relevant" aspect of the game. One could, say, introduce a "fairness parameter" that defines the behavior of the other NPCs toward the player's avatar – as generally fair or unfair, perhaps. Accordingly one could examine how the player's behavior changes depending on the "fairness attitude" that is chosen. A wide range of such variables is conceivable when it comes to the development of a Serious Moral Game. Moreover, there are parameters internal to the game that might change, as well as changes that could be made outside of the game by the player himself.
The following is a selection of game elements that represent potentially relevant parameters:

Deliberation time: How much time does the player have to make his decision? How does the time pressure affect the decision making process?

Possibilities for correction: Does the player have the possibility to correct decisions and actions retrospectively, as in the form of rectifications, say? To what extent does this possibility effect the decision

making process, especially when the player expects it?

Narrative variability: Based on variations within the narration, priming effects could be examined. Variables include narrative elements such as backstory or cut scenes.

Different contexts of action: The narrative setting as a whole as well as the genre of the story can be a design variable, given the appropriate effort. Different contexts can have importance for an ethical decision.

Different character roles: The role of the player can be designed as a variable, as can the character's backstory, its looks, and its modes of interaction. To what extent do the features of the character determine the decision making process?

Interaction with NPCs: Due to the audiovisual mode of presentation, subtle changes in the character's social environment can be built in. These variables would concern interactions with the NPCs, such as how they talk to the character.

Evocative level: Based on variations in the audiovisual development of the characters, one could observe the effects of different features like age, gender, looks, etc., on the decision making process.

Different forms of presentation and audiovisual style: Such elements enable in particular the examination of framing effects. How do the form of presentation, the style, or the media processing effect the decision making process? Do realistic forms of presentation support ethical decisions more than abstract and stylized forms? How can the relationship between image and text be evaluated as a basis for ethical behavior?

Different perspectives: How might the distance that the player has from events, persons, or situations, especially ones she can influence, play a role in moral agency?

Variable degrees of difficulty for certain tasks: Does a player maintain her ethical values or does she abandon her conceptions of value when the actions occur under significant time pressure, or when she is faced with additional challenges?

Each of these parameters can be used either for determining the structure of the controls or as measurement parameters. The individual objectives of a Serious Moral Game have to determine how these factors are to be instantiated.

Ensuring Standardization 4.7.3.

One problem with common tests is that environmental effects (interaction with the project leader, framing through situational effects, etc.) are often very difficult to control. A Serious Moral Game could help standardize testing situations in that, as a program, the game could run the same for all subjects and thus ensure a largely consistent framing. The realization of this aim of standardization would not be practical for every type of game. A linear storyline would seem to be a precondition congenial to the standardization of test situations. It would ensure that the events of a game happen in order, and would exclude randomly generated elements and dynamic game processes. It also ensures that the player's decisions are made in isolated situations and that these follow one after another. Events can be narratively connected and certainly form a story, but they should not influence each other dynamically if the framing is to stay the same in every instantiation of the game. If the principle of linearity is not maintained, situations with different temporal or contextual features could arise during the course of the game. A game with a dynamic game sequence would be identical for all players at the beginning, and yet the dynamic adjustments of the game would compromise the standardization.[47]

From the perspective of game design, a linear game structure can be implemented relatively easily, from a conceptual as well as technical standpoint, in comparison to a dynamic action structure (e.g., a freely amenable and variable world), which would impose complicated challenges in its implementation. But aside from simplifying the standardization, linearity in game structure contributes relatively little to the value of a Serious Moral Game. The potential of such a game lies especially in dynamic game sequences, since those do not present ethical decisions as isolated events, but have contextual consequences and so provide relevant meanings to the game and the actions. In implementing a Serious Moral Game, it thus has to be decided whether dynamic game sequences, which admittedly highlight social game aspects but

47 *Façade* allows ethically motivated game actions. But since the game responds dynamically to the action and every round has a different conversation with Grace and Trip, a standardization with a consistent framing is not possible.

cannot guarantee a consistent framing, have to be traded off in favor of standardization.

4.7.4. Summary

Our remarks reveal numerous different characteristics a Serious Moral Game might have, ranging over a spectrum from game systems that parallel tests in their essential structure, to virtual worlds that offer the player options for action within a complex gameplay. In the first case the difference between a Serious Moral Game and a common ethical test lies exclusively in the media processing and its effects, that is, in a concretization of the situation through the audiovisual representation as well as the option to standardize the testing situation and thus ensure a consistent framing. Like in a common test, here the decisions of a player could be evaluated with regard to moral agency, and one could even examine whether the game software could automate an evaluation. In contrast to that are the games that go beyond the test situations and build ethical choices into the dynamic game processes. Their strength is in being able to facilitate an individual evaluation, since the course of the game leads to different situational contexts, and ethical choice criteria are overlain with other action criteria. The value of these systems lies in liberating ethical decision making from the artificial sterility of a test, and in the experience of a game plot with lasting consequences. Whichever approach is chosen depends on the application of the Serious Moral Game, possibilities for which are presented in the final chapter.

5. Areas of Application for a Serious Moral Game

In this final chapter we will describe concrete areas for the application of a Serious Moral Game. These will be grouped into the areas of diagnostics, game studies, and intervention; the layout of a Serious Moral Game will differ according to each area. The chapter outlines the research questions that are likely to play a role in the construction of a Serious Moral Game.

5.1. Basic Areas of Application

The games we have presented reveal a large range of possible game mechanisms that represent aspects of moral action and enable one to play according to ethical criteria. Most of these game mechanisms appear feasible in a Serious Moral Game; few can be categorically excluded, since each has specific weaknesses as well as strengths. At least this is true from the perspective of game design. Which of the game mechanisms will actually be included in a future Serious Moral Game depends substantively on the concrete application for which the game will be designed.

As we explained earlier (see 1.1), Serious Games are currently in use in different disciplines. The application of Serious Moral Games to various areas is likewise conceivable, especially in so far as they are capable of complementing established methods rather than being regarded as a rival procedure. Depending on the field of application, the context of use, and the developmental process of a Serious Moral Game, the forms of application should also be methodologically sound. This raises the question as to how to make existing concepts operational for a Serious Moral Game, which would enable a comparison with established procedures.

With respect to the fields of application, three basic goals can be distinguished:

Diagnostic Applications: A Serious Moral Game offers diagnostic possibilities that exceed those of classical ethics tests, and thereby opens up new ways for moral research to assess moral agency. Since theoretical ideas about the mechanisms of moral agency also contribute to the structuring of a Serious Moral Game (cf. the model of moral intelligence introduced in 2.2), a Serious Moral Game can also be an instrument for examining models of moral behavior. In addition to

research applications, there are also interesting applications to the professional world, for instance when it comes to learning more about the "morality" of selected groups of people in the contexts of advising and assessment (e.g., in human resources or psychological career counseling).

Video Game Research: As this analysis has shown, ethical game mechanisms play an increasingly important role in modern video games. Accordingly, there is interest within game design and the associated research to investigate whether and to what extent these mechanisms are noticed and appreciated by players. Such insights are of significance to research on the effects of media, as well as for the education of game designers.

Intervention: Several applications of a Serious Moral Game concern cognitive and emotional learning, as well as practical capacities (e.g., motoric) and modes of behavior. It stands to reason that Serious Moral Games can be used for such purposes as well – as an instrument for moral self-knowledge, or for intervention with persons who are unable to recognize or apply socially recognized standards of moral behavior.

Diagnostic Applications 5.2.

The (mostly) exploratory nature of a video game provides for a range of diagnostic applications, even if their complex, interdependent measurement variables make these applications far more difficult for a Serious Game to master than, say, those concerned with motivation or communication. As Chapter 2 explained, it is necessary to have a clear grasp of the process structure on which moral behavior is based; that is, one needs a psychological model that indicates which factors are measurable. The model of moral intelligence that we favor is an example of this, though not the only one. A diagnostic application in the context of moral research will always implicitly be a test of one's model. If one gets conflicting results from a Serious Moral Game conceived for diagnostic purposes, this may not necessarily be the result of a bad design in the video game; rather, it may result from having based the game design on an inadequate model of moral agency. Accordingly, it will be important for the individual decision scenarios that are to be integrated in such a game play to be examined according to the standards of psychological testing (Rauschfleisch 2008).

In addition to research applications, Serious Moral Games can also be applied to areas of practical diagnostics, especially in occupational and organizational psychology – concerning, for instance, methods of personnel selection and continuing education. A Serious Moral Game could be a method aiding the recruitment processes or personnel training, either to assess competency on specific questions, or to present and evaluate controlled tests related to occupations requiring certain personality traits or key skills (e.g. the egoism-altruism dichotomy or cognitive or emotional empathy). Also, a multi-player or remote-play variant[48] of a Serious Moral Game could conceivably evaluate aspects

48 In appropriately modified online games one can understand and record virtually all the actions of the players. Additionally one could follow along on screen and in real time the actions of selected players, and record their audio commentaries, vision control, facial expressions, etc. In this way, one could leave the "laboratory context" of common test situations and at the same time take part in the social dimensions of the multi-player mode.

of social behavior vis-à-vis real players.

When it comes to diagnostic applications that have real-world consequences (e.g., should person X be therapeutically treated or not?), the ethical implications of the use of a Serious Moral Game will have to be considered. A person's own morality is a central aspect of his or her personality; accordingly, assessments of the sort, "X behaved immorally/unethically!" could have serious (e.g., stigmatizing) consequences for the persons concerned, if such a judgment is made through a Serious Moral Game. As we argue in section 2.4, the moral space might be too complex for such simple pigeonholing. The design of such an application would thus carry with it a special responsibility to safeguard the results and not allow unintended social side effects to arise.

5.3. Serious Moral Games as Instruments for Video Game Research

As ethical mechanisms in video games become more important, so too grows an interest within video game research in the question of exactly which effects these mechanisms produce, and what conclusions one can draw from that for the design of video games. In this regard, many video games already in existence, some of which we presented in chapter 3, can be understood as a simplified version of a Serious Moral Game, and so one can consider how the game mechanisms they contain could be adapted.

Within game studies and media effects research, Serious Moral Games can be instruments for investigating the transfer effects of video games; that is, they can help us examine the extent to which game mechanisms are absorbed and transferred to the real world (cf. Bigl 2009, Ritterfeld et al. 2009, Fritz 2004). They can also be instruments for media studies (data collection, review of theories), regarding themes like "violence in media", "media and emotion", or "perception of justice" (cf. Batinic & Appel 2008). Along with this, they could be applied as instruments for the study of media competence as well.

Serious Moral Games can serve as training tools in the area of game design itself, helping to develop an understanding of the video game as a medium especially capable of conveying moral implications, for instance in social interactions. Dependencies, facets, and effects of the instruments that are theoretically available in video games could be studied in a paradigmatic way in order to develop a functioning game play. Many factors can thus be analyzed with more precision: target groups, intended effects, possibilities of communication and influence, the use of drama and narration, the conception of suitable characters, dialogue, dilemmas, challenges that aren't simply a matter of "right vs.

wrong", balancing of the learning content and game-specific elements, etc. (cf. McDaniel & Fiore 2010, Vikaros & Degand 2010).

5.4. Interventionist Applications

In light of the importance that moral behavior has for the functioning of social structures, we can conceive of various applications in the realm of intervention; that is, ones that give the player insight in his or her own morality and thus can induce change. Since video games are of great interest these days, especially among adolescents, the pedagogical applications are obvious. For example, a Serious Moral Game could help children and adolescents learn how to navigate social rules and norms, and allow them to test out what happens when they break these norms. Social behavior can be learned within a virtual framework (cf. Koo & Seider 2010) – in the sense of "training in justice," for example (cf. Heidbrink 2008) – which of course means that one would have to consider the extent to which experiences in the game world can be transferred into reality (cf. Brezinka 2007). A Serious Moral Game can also focus on specific moral questions with which adolescents are confronted in their daily life. This extended scope can facilitate changes of perspective, it enables trial and error, and it can make the consequences of certain actions transparent (e.g. regarding themes like bullying, harassment, or aggression). Similar applications are also possible in adult education – the learning or relearning of empathy in the context of resocialization, the education of health professionals, or training in nonverbal communication, for instance.

Going off of existing uses of Serious Games within psychotherapy (Brezinka et al. 2007), various applications of a Serious Moral Game can be conceived here that would involve a tight connection between diagnostics and intervention. Psychological diagnostics was originally concerned "to gain a thorough understanding of human behavior" in order to be able to make decisions with regard to an intervention when there is a disorder (Fisseni 1997:3ff.) Today the concern is more with the capacity to recognize psychological diseases and to assign causes, and psychological tests are supposed to verify this through certain behaviors in

standardized situations (Fisseni 1997). Accordingly a Serious Moral Game could be used as a supporting method for the diagnosis of personality traits (with, say, a personality test), to perhaps simulate situations or to identify individual differences in behavior and experience. Here the goal would also be to make predications, in the sense of a prognosis, about future behavior and experiences.

Serious Moral Games could also be aimed at behavioral changes that would then allow for systematic control. Specific areas for the use of such games include behavior and aggression therapy, the training of children and adolescents to have a more adequate awareness (cf. Brezinka 2007), trauma therapy, and motivational therapy. Adults, adolescents, and children could reflect their own experiences or those of others.

Conclusion

Our account has shown that the relationship between video games and morality, given the current level of development, is much more complex and demands a much more nuanced discussion than one usually finds in public debate. Contemporary video games are increasingly concerned with ethical game behavior and apply this insight to their game mechanisms; moreover, by developing these mechanisms in more sophisticated ways they can themselves become valuable instruments for moral research and practical uses.

In a culture in which the digital gathering of information about social processes plays an increasingly important role, it is plausible to suppose that the interactive medium of the video game will gain general acceptance as an instrument for the acquisition of knowledge. A Serious Moral Game that contains the elements articulated here, and that is applied in ways we have described, can open up opportunities for the medium beyond those of today's common design formats, thereby providing substantial support to moral research as well.

One shouldn't hide the fact that the complexity of

the “Serious Moral Games” topic presents new kinds of challenges for the constructions of such games. The interdependence of multiple parameters, along with the difficulties of correlation and interpretation, leave designers with many unanswered questions. It should be noted that among the present group of authors there is extensive experience in the design of Serious Moral Games, including motoric rehabilitation (Götz, et al. 2011), which warrants clear conclusions about which issues seem manageable according to current design strategies, and which should be avoided due to the complexity of their basic conception. The employment of Serious Games within the area of motoric rehabilitation shows especially how a precisely controllable number of parameters can be purposeful and effective, and how consistently positive effects can be achieved when a Serious Game serves primarily as a motivator to participate in, say, psychotherapy. Serious Moral Games would certainly break new ground in terms of layout, structure, and interest.

Given the technological developments of the past decades, one can assume that digital information of all kinds will continue to pervade and organize public life in more and more ways. Without going down the road of conspiracy theories, one can

predict that as “digital dependencies” develop we will find analyses of digitally recorded behaviors becoming increasingly common, whether they concern consumer behavior, access to information, behavior within social networks and virtual worlds, and so forth. Since such assessments and evaluations of social behavior will naturally proceed surreptitiously, an obvious incentive and a clear mandate arises when it comes to the development of a Serious Moral Game: it should be concerned with developing iterative functionalities and qualities within such games, and at the same time ensuring the transparency of the emerging mechanisms and their availability for public discussion. In this way, awareness could develop as to how moral behavior can be better understood and applied at the level of the individual, but also concerning its significance and value within the social context.

Thanks

We would like to thank our colleagues in the SAMW project, "The Effects of Deep Brain Stimulation on Moral Agency: A Development of a Method for Problem Identification and Validation" – Prof. Dr. Hans-Werner Bothe (Neurosurgery, University Hospital Muenster), Prof. Dr. Peter Brugger (Neuropsychologie, University of Zürich), and Dr. Sabine Müller (Charite Universitaetsmedizin Berlin) – for their valuable comments on this project. We also would like to thank Dr. Beat Suter (Game Design. ZHdK) for his comments on an earlier version of the manuscript

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Ludography and Image Credits

Bioshock, 2K, 2K Games, 2007 (*Fig. 11, S. 76*)

Counter-Strike, Vivendi Universal, Valve Software, 1999

Deus Ex, Eidos Interactive, Ion Storm Inc., 2000 (*Fig. 12, S. 78*)

Doom 3, Activision, id Software, 2004

Dungeons & Dragons, TSR, Wizards of the Coast, 1974

Fable 2, Microsoft, Lionhead Studios, 2008 (*Fig. 9, S. 72*)

Façade, Procedural Arts, 2005 (*Abb. 4, S. 61*)

Fallout 3, Bethesda, Bethesda Softworks, 2008 (*Fig. 8, S. 70*)

Globulos, GlobZ, 2003 (*Fig. 3, S. 55*)

InFamous, Sony Computer Entertainment, Sucker Punch Productions, 2009 (*Fig. 5, S. 63*)

Knights of the Old Republic, LucasArts, BioWare, 2003

Peacemaker, Impact Games, 2007 (*Fig. 7, S. 68*)

Pong, Atari, 1972

R-Type, Irem, 1987

September 12th, Powerful Robot Games, Newsgaming, 2003 (*Fig. 10, S. 74*)

Shadow of the Colossus, Sony Computer Entertainment, Team ICO, 2006

Space Invaders, Midway, Taito Corporation, 1978

Tetris, Alexey Pajitnov, 1989

The Sims, Maxis, EA Games, 2000

The Witcher, Atari, CD Projekt Red Studio, 2007 (*Fig. 6, S. 66*)

XIII, Dargaud, UbiSoft, 2003

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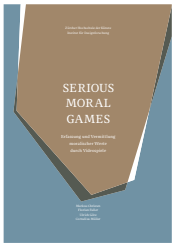
University of Zürich Research Priority Program in Ethics

In many areas of society today, ethical issues are in the spotlight. This is why, in 2005, the University of Zürich founded a University Research Priority Program in Ethics (URPP Ethics). The URPP Ethics aims to promote research in the foundational fields of ethics, as well as research in applied and interdisciplinary ethics. At the heart of the URPP Ethics is a graduate program to encourage young research talents. Participants come from a wide variety of scientific disciplines.
In addition to the graduate program, there are projects addressing various ethics issues: the structure of moral orientation, respect as a basic moral concept, specific conceptions of justice, issues in medical ethics, and questions concerning ethical judgment. Since 2009, an interdisciplinary project entitled Human Dignity in Practical Contexts has been undertaken.
The UFSP maintains a close cooperation with the Center for Ethics at the University of Zürich, and its offices are located within the Center.

Zürich University of the Arts, “Serious Games” Research Area

The Zürich University of the Arts is one of the leading arts schools in Europe. It has around 2500 students engaged in various study and research programs, including design, film, art, media, music, dance, theater, art education, and transdisciplinary work. The Department of Design is comprised of around 400 students in Bachelor of Arts in Design, Master of Arts in Design, and continuing education programs. The associated “Institute for Design Research” is organized into the focus areas of “Products and Spaces”, “Systems & Infrastructures” and “Theory and Methods”, and it has the task of establishing design research as a systematic process within the discipline’s search for knowledge, as well as to establish it, along with its specific forms of knowledge production, within the Swiss educational system. The “Serious Games” research area is affiliated with the research program on “Systems & Infrastructures”, and has an international track record in the analysis of the functionality and effects of games within broad cultural and scientific contexts.

Institute for Design Research Publications



SERIOUS MORAL GAMES

Markus Christen, Florian Faller,
Ulrich Götz, Cornelius Müller

Can video games convey moral values? This idea runs counter to a public debate in which it is often just taken for granted that such games have a negative influence on the morality of the players. The present book aims to facilitate a break from the mostly shortsighted way in which the discussion is conducted and to develop a new theme, one that emerges out of the observation that many modern video games do in fact integrate ethical themes into their game design. To this end, the authors investigate the possibilities and limits involved in the development of a "Serious Moral Game" – a video game through which one can apprehend and reflect on the moral actions of its players. Serious Moral Games shows that video games hold a potential that has thus far remained largely untapped, one that can be of interest both in moral research as well as to the players themselves: video games as instruments for coming to understand more about oneself and one's own moral opinions and values.

Printed german version
Published in Dezember 2012
ISBN 978-3-033-03761-8

SPATIAL DESIGN

Stephan Trüby (Ed.)

This volume presents twelve conversations with eighteen interlocutors who were guests in the postgraduate study programme MAS Spatial Design of the Zurich University of the Arts from fall 2009 on: Carson Chan, Bill Drummond, Peter Greenaway, Andrea Hofmann (Raumlaborberlin), Barbara Holzer (Holzer Kobler), Rafael Horzon, Thomas Huber, Francis Kéré, Rem Koolhaas, Wilfried Kuehn (Kuehn Malvezzi), Georg Lendorff, Andres Lepik, Wolfgang Lorch (Wandel Hoefer Lorch), Tristan Kobler (Holzer Kobler) Mathias Rust, Christoph Schlingensief, Bernard Tschumi and Philip Ursprung. The conversations highlight how similar cultural techniques pervade the shaping of, and the performance in public space as much as museum, exhibition and stage design.

Published in May 2013 (in German)
ISBN 978-3-906178-00-4

Can video games convey moral values? This idea runs counter to a public debate in which it is often just taken for granted that such games have a negative influence on the morality of the players. The present book aims to facilitate a break from the mostly shortsighted way in which the discussion is conducted and to develop a new theme, one that emerges out of the observation that many modern video games do in fact integrate ethical themes into their game design. To this end, the authors investigate the possibilities and limits involved in the development of a "Serious Moral Game" – a video game through which one can apprehend and reflect on the moral actions of its players. Serious Moral Games shows that video games hold a potential that has thus far remained largely untapped, one that can be of interest both in moral research as well as to the players themselves: video games as instruments for coming to understand more about oneself and one's own moral opinions and values.

ISBN 978-3-906178-01-1

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