



Serious Moral Games in Bioethics

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Overview

Why a “Serious Moral Game” in Bioethics?

Defining a “Serious Moral Game” (SMG)

Theoretical underpinning: “Moral Intelligence”

“Moral Mechanisms” in current video games

Outlook: Designing a SMG



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Why a “Serious Moral Game” in Bioethics?



Teaching bioethics through deliberation

A substantial part of teaching bioethics (both with medical students as well as in continuing education) consists of deliberating on case vignettes like this one:

A patient collapsed in her home due to hypokaliemia and was brought to the hospital. The patient experienced respiratory and cardiac arrest and remained in a coma for 10 weeks. The patient did not have a living will.

After three year, the patient was diagnosed as being in a permanent vegetative state - a condition that persuaded her parents that the patient could recover.

After eight years, the patient's husband – who was also her legal guardian – petitioned the courts to remove her feeding tube, but her parents objected. He argues that artificial feeding should be considered to be a therapy and that it is legal to withdraw this therapy in an end-of-life care setting.

Should feeding be withdrawn or not?



Problems of teaching bioethics

It is undisputed that training in ethics is indispensable for medical students and professionals – for example because medical practitioners sometimes have difficulties in recognizing alternative moral standpoints or values of patients and their close relatives when facing decisions (Kleinman 2011).

However, it frequently has been diagnosed that the effects of courses in biomedical ethics are limited – in particular in medical students (Campbell et al. 2007; Mattick & Bligh 2006). One reason for this may be that recognizing the relevance of ethical issues requires actual practice. But it may also be that the current training in ethics, which is usually based on deliberation of case studies, is incomplete (Buyx et al. 2008)].

We suspect that one shortage is the insufficient immersion into the problems under consideration which does not allow practicing psychological competences that underlie moral behavior.



Consider this “Case Vignette”

Your home country has been destroyed by nuclear war. You survived the disaster in a fallout shelter, and you are now roaming the post-nuclear wasteland in search of your father

During your search, you encounter survivors who have banded together in small, makeshift settlements. The world presents itself as torn and dangerous. Political and social structures are only marginally present and society is dominated by the “law of the jungle.”

In one of these encounters, you meet a man who has mutated into a tree-like creature, and who 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 you to free him from his tormenting, plantlike life.

Should you end the life of this creature?



This story is included in the setting of **Fallout 3**, Bethesda Softworks, 2008





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The idea of a Serious Moral Game



Prosocial video games?

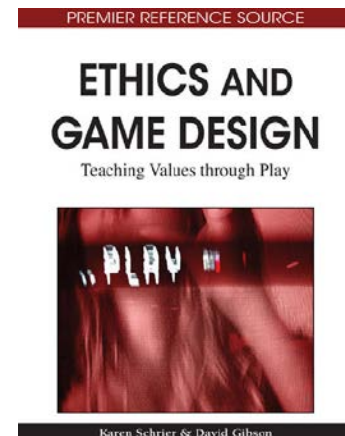
Anderson et al. (2010): *Of course, the same basic social-cognitive processes should also yield prosocial effects when game content is primarily prosocial. Unfortunately, there has been relatively little research on purely prosocial game effects (...). However, some recent studies have found that prosocial games can increase cooperation and helping.*

Ferguson 2010: *It is argued that the debate on video game violence should be broadened to include both potential negative and positive effects.*

And there is indeed an increasing amount of research investigating positive (i.e. prosocial) effects of video games.

The **Good Play Project** of Harvard University.

Or Schrier & Gibson (2010)



Games and moral behavior

There are two types of moral decisions players can make in a video game:



Gameplay-external (in particular in multi-player-games):

Adaptation of player-behavior to increase, e.g. fair play or enjoyment of other players (Globulos, 2003).



Gameplay-internal:

The game offers decision situations that can be interpreted as “moral decisions” and that have an effect on gameplay (The Witcher, 2007)



Defining a Serious Moral Game

A serious game that focuses on the morality of the player is a **Serious Moral Game (SMG)**. Our definition is:

A Serious Moral Game is a video game, by which

- *a moral agent reveals information*
- *on his or her moral intelligence (the model that describes the agent's moral capacities and orientations)*
- *through his or her playing behavior*
- *towards him-/herself or towards third parties such that an inference on the real-world morality of the agent is possible.*

The goal of the game lies outside of the game, allowing, e.g. for:

- Obtaining data for moral psychological research
- Getting a self-understanding of the agent (morality in context)
- Training specific moral capabilities of the agent.



Issues to consider

Beside all technical difficulties that have to be solved when programming a SMG, there are three conceptual issues to consider:

- **What do we mean by “morality”?** Which norms are included, i.e. how “rich” is the moral ontology? What about moral relativism? What about moral justifications?
- **What understanding of “moral agency” do we have?** How do we frame the psychological competences and their interplay that characterize moral agency?
- **Which game mechanisms are available that allow conclusions on the morality of the player?** How can this be done such that the parameter space is richer than the current “moral tests” but still allows for reliable conclusions?



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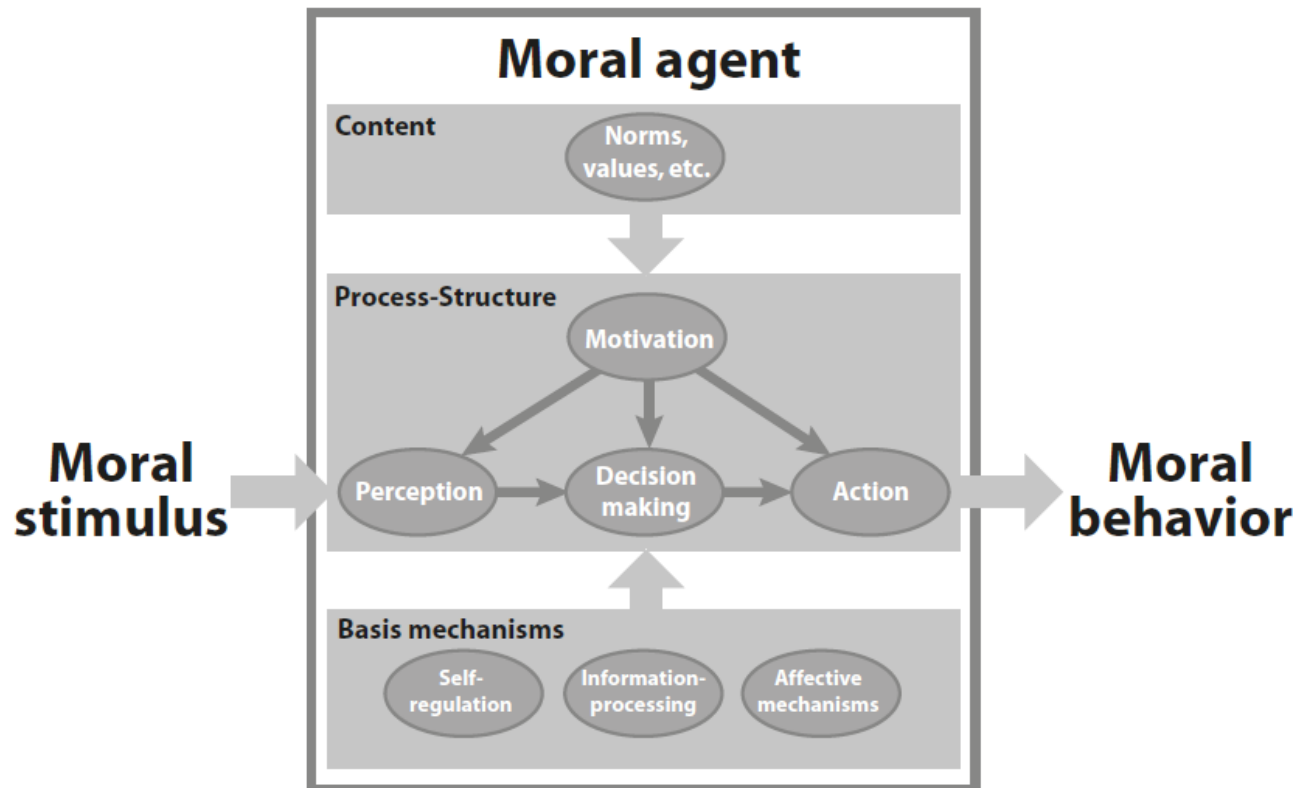


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Setting a psychological frame: Moral Intelligence

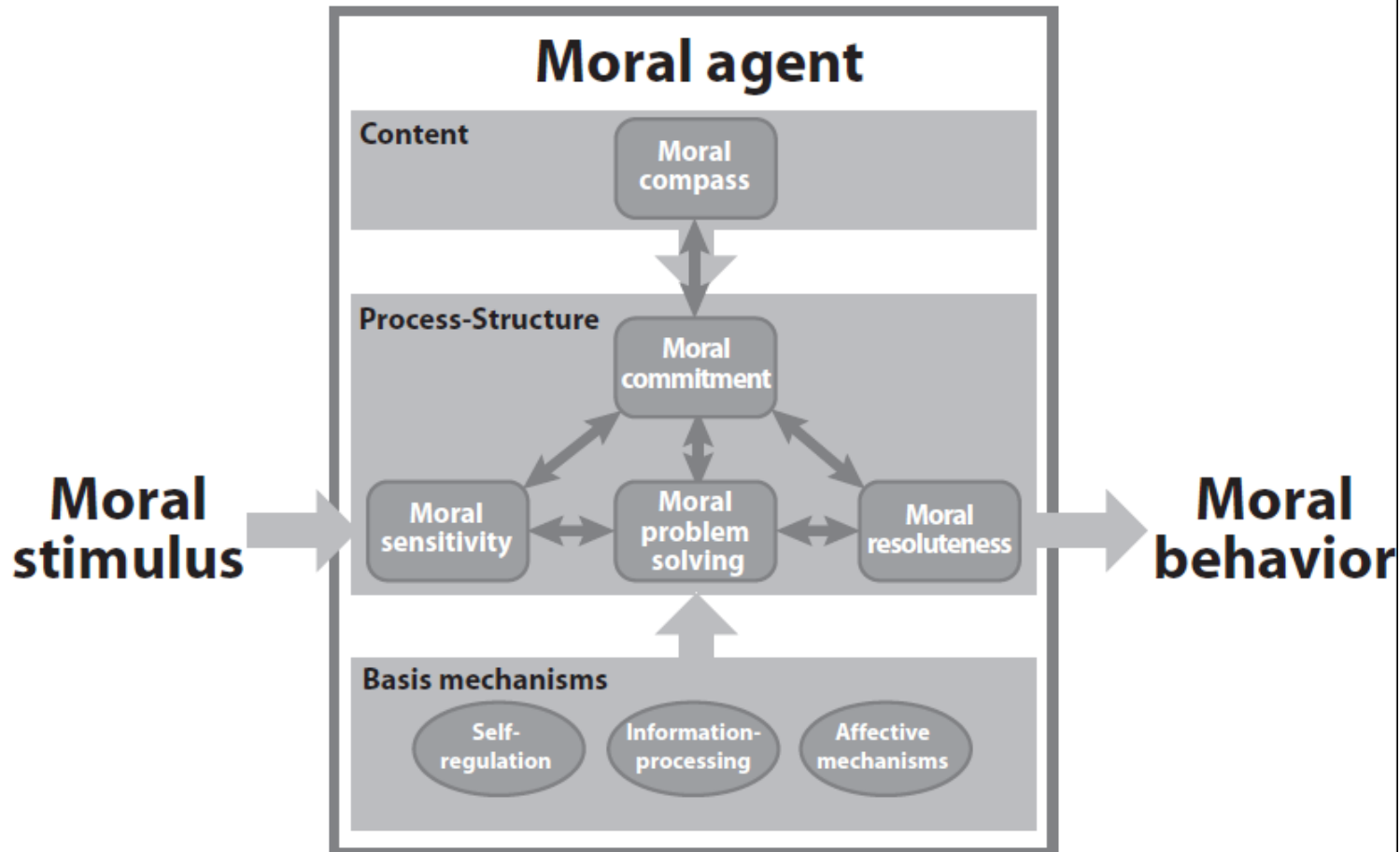
Stage models of moral behavior

We work with an adaptation of classical stage models of moral decision making (Rest 1986, Narvaez 2005):





Our working model: Moral Intelligence



Tanner & Christen, 2013



Consequences for a Serious Moral Game

The model of moral intelligence allows to structure the various questions that have to be solved when creating a SMG:

- 1) **Moral compass:** We need a way to evaluate (game-internally or externally, e.g. during debriefing) the moral orientations that are important for the player
- 2) **Moral commitment:** Moral issues must be important within the setting of a SMG.
- 3) **Moral sensibility:** One potential variable to measure/improve, i.e. moral issues should not be too obvious.
- 4) **Moral problem solving:** An inherent part of any video game (all games offer decision) – but here we have the possibility to vary various aspects of moral decision (time constraints, long-term consequences etc.)
- 5) **Moral resoluteness:** One potential control parameter: effort to uphold moral decisions, dealing with temptations, etc.



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Potential parameters of a Serious Moral Game

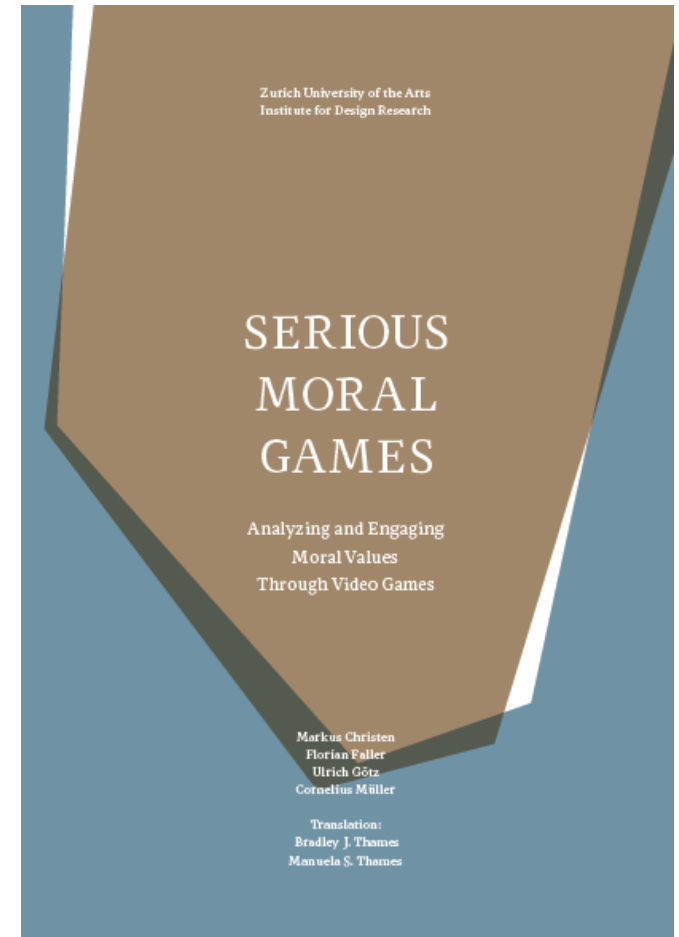


Analysis of existing video games

In an extensive study we have analyzed several paradigmatic types of current computer games with respect to their narrative setting, their game play and their ethical system.

In this way we identified a wide range of variables that have already been used in games and that represent potentially relevant parameters for measuring moral behavior.

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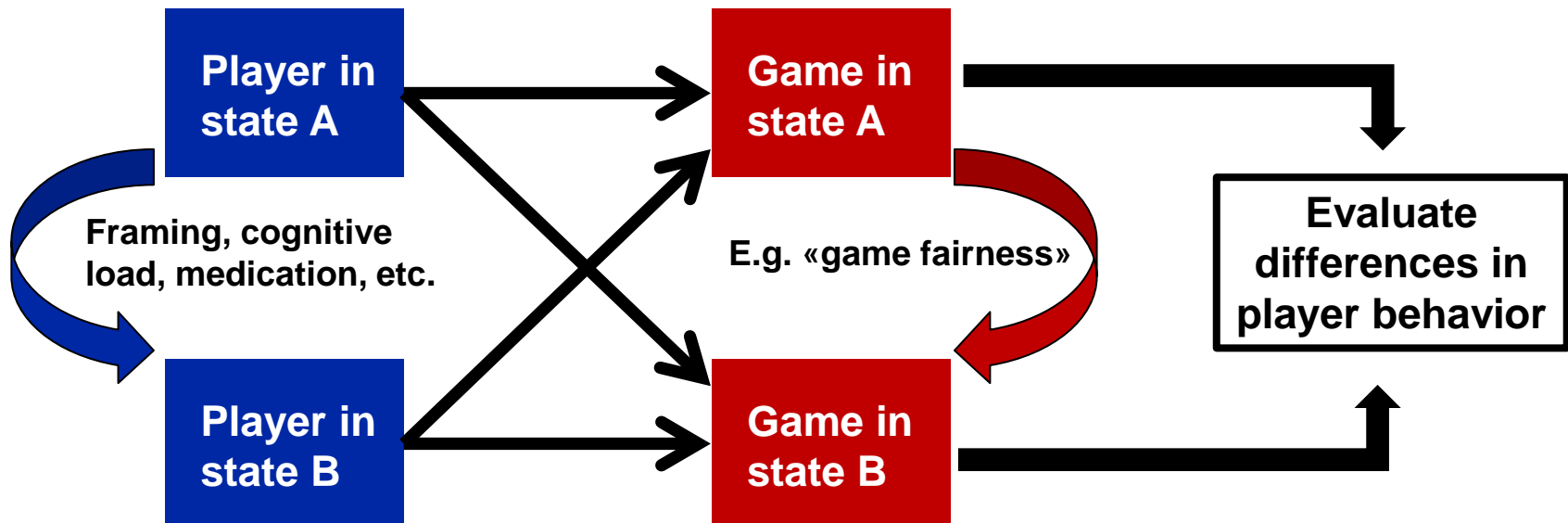
Overview of factors that can be controlled

- Deliberation time
- Reversibility of decisions (e.g. “compensation”)
- Priming through narrative variability
- Context of a decision problem
- Character (change) of player avatar
- Interaction with NPCs
- Audiovisual appearance of avatar / NPCs
- Framing through general style (e.g. realistic vs. abstract)
- Perspectives (first person, third person)
- Decision costs
- ...



Dealing with the problem of fictional freedom

Games allow to try out (unmoral) options, i.e. a simple count of the number of prosocial choices is probably not the appropriate measure. Rather, differences in behavior should be the focus:





Current state of the project

We are currently focusing on the following two elements in our project:

Moral Psychology: Generating a working “ontology” of the moral space (i.e. elements/values whose inclusion in the game makes sense and valid definitions of those elements), analyzing the psychological mechanisms of moral sensibility (as a first core training feature of the game) for suitable case vignettes .

Game Design: Defining the technical requirement specifications, including:

- World design (creating the background story)
- System design (rules of the game, input-output relations)
- Content design (creation of play figures, and their tasks)
- Game writing (e.g. dialogue texts)
- Visual design
- User interface

Beware of ethical pitfalls: stigmatic effect of a “immoral diagnosis”, balancing of social demands and personal freedom, moral relativism.



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- Carmen Tanner, University of Zurich (social psychology)
- Mike Villano, University of Notre Dame (game design)

Thank you!