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Abstract

In order to avoid irreversible impacts of technology on society, it is important to use technology assessment as an early warning function. In reflection on future scenarios, we should not just question the desirability of a future technology, but also of a future morality. We should reflect on a different morality as well. The moral routines we use in everyday life moral deliberation, prevent us from doing so. We should think outside these moral routines in order to make reflexive ethics of technology possible. Scenarios providing different moralities engage mental energy, invite to self criticism, reflection and the judging of prejudices. This mental energy might help us to think outside our moral routines. Using narratives might be the best solution since they can show how technology can change morality and at the same time trigger the readers' imagination. The problem is that not all narratives necessarily stimulate imagination. This means a 'tool' is needed which helps authors to optimize narratives for stimulating the readers' imagination.

The main reason why we should optimize the scope and amount of our imagination is that it is limited. The two reasons are that it relies on limited experience and because not all experience we have, might be used automatically in (our) imagination. What we need to imagine is not on moral change itself, but a life with different moral values, moral norms and moral principles, as a result of the change. This is called moral imagination. A heuristic is important for letting authors focus on the main goal of narratives and on the several aspects that make narratives stimulate the imagination. It can be based on common sense and give a strategy about the style of writing, content, target group, societal issues and ambiguity. A heuristic based on philosophical ideas, might be more detailed, accurate, complete and is more likely to be accepted by authors. Mark Johnson argues for a role for metaphors in moral imagination, because moral concepts are defined metaphorically and our conceptualization depends on metaphors. He defines the essence of metaphors as the understanding and experiencing of one kind of thing in terms of another. Because metaphors make readers experience a new morality in terms of another, this account of moral imagination is compatible with the kind of change that readers need to imagine. In order to define a heuristic, ideas are needed about how to make metaphors as effective as possible. Wayne Booth provides criteria for several aspects of how metaphors can become more effective and trigger more mental energy. These criteria state that metaphors must be active, appropriate, accommodated to the target group, etc. Booth's criteria can be supplemented with criteria regarding the use of multiple metaphors, the goal of metaphors in this context and a definition of metaphors. In order to evaluate the

feasibility of the heuristic, a case study is done and two novels are analyzed: Philip K. Dick's *Do Androids Dream of Electric Sheep?* (1968) and Aldous Huxley's *Brave New World* (1932).

Do Androids Dream of Electric Sheep? describes the aftermath of a nuclear war called World War Terminus. The values mental health, authenticity and empathy have, compared to our morality become more prominent in the novel's morality, due to societal and technological developments. The novel's plot is thought as being thought provoking because of its ambiguity. The metaphors used are both explicitly and implicitly present and stimulate the readers' imagination. In *Brave New World* a war has made stability and happiness more important. As a result, individuality becomes less important, a different way of moral reasoning is used and several controversial technologies like eugenics and conditioning became accepted. The novel's plot is not complex and ambiguous and does not trigger a rational response as in Dick's novel. Instead, because of its strange morality, it triggers emotional responses. Also this novel uses both explicit and implicit metaphors.

What we can learn about the two novels in this respect is, firstly, that the novels are good examples of narratives about the co-evolution of technology and morality, secondly, that there are two ways in which both the novels and metaphors can be thought being provoking and, thirdly, that there are two kinds of metaphors. Hard to understand implicit and explicit metaphors initially trigger a rational response, while simple explicit metaphors are more likely to trigger emotional responses or no response at all. Emotional responses are good for the bonding with the story and trigger readers to think, but do not trigger imagination in the same way as hard to understand metaphors do. What is most appropriate, an explicit or implicit metaphor depends on what it should let readers experience. The heuristic helps in making metaphors effective in triggering rational responses. Except for one criterion stating that metaphors must be concise and economical. However, this criterion is irrelevant for the heuristic. Another criterion stating that metaphors must be used in clusters, is made more nuanced, stating that it is only recommendable. In conclusion it can be said that the heuristic of moral imagination is valuable for scenario authors because it makes them aware of how readers imagine this different morality and because it gives guidelines for optimizing readers' imagination. There are some limits; stepping out of the moral shadow is still impossible and experience remains limited. But the heuristic of moral imagination is nonetheless a powerful tool that helps to optimize narratives for stimulating the readers' imagination.

Chapter 1

We are unable to jump our moral shadow

Something that most people share, is that they do not like unpleasant surprises like unexpected bills, a broken car, etc. In order to know what to expect, or to avoid unpleasant surprises, we like to think a few steps ahead. On a societal scale all kinds of people think about future developments, from stock brokers to policy makers working for big companies or the government. On this scale, unexpected developments or problems can have a large and maybe even irreversible impact. It might therefore pay off to think ahead. This can be done in several different ways.

Thinking about future developments can have the form of mere speculation in brainstorm sessions, in which the participants come up with visions towards the future. Thinking ahead can also be done in a more controlled way, using special models and trends. One thing is for sure, we cannot know the future, and should therefore remain speculative. Different forms of technology assessment (TA) provide different perspectives and approaches towards controlled speculation. The focus can for example be on trends about how social needs, politics or science shape technological developments. What these approaches have in common, is that they have traditionally an early warning function and that they conduct research about the effects of a given technology and provide society time for reflection and taking measures (Schot, 1992). Big decisions and measures about a future technology, in which many interests are at stake, can evidently better be taken on a base of controlled speculation, rather than on a base of mere fiction. There is however a problem with traditional forms of technology assessment.

The impact of technology cannot be seen separately from morality (Swierstra & Stemerding, 2006) (Swierstra, 2007) (Rip & Swierstra, 2007).¹ There are several examples in history illustrating that technology and morality co-evolve; morality changes due to technological change, and vice versa. IVF for example is a technology that changed, because of its possibilities, the way in which people value life and their way of reproduction. A normative implication of the insight that technology and morality co-evolve is that, if we know that morality changes and

¹ Swierstra and Stemerding call ignoring the fact that morality, society and culture change under influence of new emerging technologies moral presentism. This can be compared with conducting some kind of 'wig history' towards the future.

we assess technology, we should then also assess morality. We cannot leave out moral change as an important aspect of technological change. After all, we want to provide a scenario of the future of which we can say that it is controlled speculation, and which we can use to take measures. Such a scenario is a picture of the future in which both a different technology and morality are presented and it allows us to reflect on both. According to Swierstra and Stemerding these scenarios could help us in our moral reflection on the morality of tomorrow and help us in asking ourselves how morally desirable we deem this future morality to be. This process of deliberation based on such a scenario requires more than just the knowledge of what is probably or possibly going to happen.

The process of deliberation is a process of discussion, consideration, reflection and weighing possibilities. It is a process that requires open options, and cannot be done without imagination. We need creative thinking to deduce new situations and to place ourselves in it. Also inherently in this process of deliberation is the use of moral routines, values and norms. We need values and norms to determine whether something is desirable or not. Values and norms provide the necessary reference. Some people refuse to use IVF because of the rest embryos referring to the value of life.

From the moment of early childhood, when we as a child started interacting with other people we have developed moral routines. They allow us to make instant judgments about what is deemed morally good or wrong in our society. These judgments are sometimes even made unconsciously, and are made in harmony with the prevailing morality. On the one it seems good to have moral routines, on the other hand, they do however also have downsides. Moral routines are so much part of our thinking that they are always present and inescapable. This moral shadow, as Swierstra and Stemerding call it, cannot be jumped. Why this is a problem becomes clear when trying to reflect on a different morality. In order to do that, someone has to be able to imagine being part of a different world, and experience how it must be to have different values, norms and principles.

It is for example hard for Europeans, who have no experience with life in the middle east, to understand some middle east moral values and norms, because in every act of moral deliberation references are made to their own moral experience. In order to understand and reflect on a different morality, we should experience it as separately from our own experience as possible. The same counts evidently for different future moralities. Moral routines prevent us from imagining a different morality. If we cannot let go these moral routines, it would make a proper reflexive ethics of technology, an ethics of technology that also allows us to reflect on a future morality, impossible.

Although moral routines allow an agent to act morally according to the prevailing morality, they at the same time limit imagination of a future morality. The reason is that moral routines encompass limited moral experience; an agent has limited moral experience to deduce new experiences from. According to Swierstra and Stemerding, the 'scope' of imagination can be extended by moral learning in which people are confronted with strange new conflicting morals. The situations provided by traveling to future worlds with different technologies and moralities invite us to self criticism, reflection and the judging on our prejudices.

A preliminary conclusion is that scenarios should make the readers aware of the idea that technology and morality co-evolve and allow readers to morally

reflect on these scenarios. In the next two sections I will elaborate further on this issue.

Raising awareness

A first intuition regarding ways to stimulate awareness of some idea in general, is simply to communicate it. Passing on the knowledge seems to be the most obvious way. Philosophical literature like for example the paper of Swierstra and Stermerding, is meant to communicate the idea that technology and morality co-evolve.

There are however some objections against this method. The problem is that most people within the target group, policy makers and citizens, are not philosophers. It is unlikely that they will study this kind of literature in order to raise awareness. Another objection is that knowledge not necessarily stimulates awareness. Being aware of an idea means that this idea occupies someone's consciousness. It is likely that some new ideas might not occupy an agent's consciousness at all and become quickly forgotten. Someone might simply not be interested in different cultures. Besides, the idea that technology and morality co-evolve might not help us to overcome our moral shadow. If passing on knowledge does not work, the question is what we need to stimulate this awareness. Evidently we need some knowledge for understanding the co-evolution of technology and morality. But we also need something to overcome our moral shadow.

Artifacts, stories, poetry, photography, music and other kinds of art are all able to trigger someone's imagination. Art in special is meant to trigger both the senses and the mind, and can be used to represent political and philosophical views. The problem with the abstractness of much visual art is the way in which it must be interpreted. In order to make people understand the co-evolution of technology and morality it must be concrete in some way. Another problem is a more practical one; the medium must be able to carry the information. The idea of co-evolution of technology and morality can hardly be included in an artifact or a photograph since it must contain more information than these media can carry. Swierstra and Stermerding recommend narratives about the co-evolution of technology and morality for stimulating moral imagination. Given the reasons above, using narratives would indeed be most plausible. However, not all narratives necessarily stimulate imagination as I will show in the following section.

A problem

Narratives can contain all the information that is required to communicate the idea of the co-evolution of technology and morality and can be written in such a way that they trigger readers' imagination. The quality of the narrative in this context is determined by the extent in which it contains the proper information and the extent to which it triggers the imagination. Evaluating the first criterion is unproblematic, it is a matter of determining what information is required to communicate the idea of the co-evolution of technology and morality, and whether or not it is present in the narrative. This in contrast to the extent in which a narrative triggers the imagination; that is much harder. Not all narratives do stimulate the imagination of

every person effectively. A narrative that stimulates the imagination of one an agent might not do that with another, and vice versa. Although narratives are good means for carrying ideas, factual data or insights, they do not necessarily trigger the readers' imagination. A consequence might be a lack of communication and little raised awareness; policy makers and citizens might then not be able to imagine different moralities.

Swierstra and Stermerding give guidelines that help scenario authors to write a plausible story with regard to the co-evolution of technology and morality. They do however not speak of the possible limits of using narratives and do not give guidelines that describe how to write narratives in such a way that the narratives stimulate the readers' imagination. This problem can be summarized in the following problem statement:

How to optimize narratives about the co-evolution of technology and morality for stimulating the readers' imagination?

Solving this problem is at the basis of this essay. It is important for Swierstra and Stermerding's project to gain insights in how narratives stimulate the imagination of the readers. The insights gained by solving this problem can be used in supplementing the heuristic given by Swierstra and Stermerding. Occasion for this project is the idea of Swierstra and Stermerding but this project might also have a wider relevance. Other authors who write scenarios based on technology assessment and with a different technology and morality might profit from the heuristic that are developed in this essay.

Solution and steps

The origin of the problem lies in the fact that it is unclear what it is in texts that stimulate a readers' imagination. It might be that the narratives must be impressive, thought provoking etc. If we have any idea about it, principles or guidelines can be drawn. These can be applied in new narratives. It is evidently better to look for existing ideas about narratives and moral imagination. Several authors have written about this subject. Whereas many authors write with a different agenda, it is important to see whether or not this idea works for my own agenda. I will have to make a translation to make the ideas suitable for my agenda. Important things to consider are the conceptions of narratives and imagination of which we speak.

In the second chapter I will take the first step and define a theoretical framework. This theoretical framework consists of ideas about narratives and moral imagination, and provides insights that can be used as a starting point. These are insights about the kind of moral change that we speak of, how this moral change can be experienced, and most importantly, about how moral change can be imagined. The second step in the third and fourth chapter is a reflection of the theoretical insights on existing narratives. It is basically an evaluation of how the theoretical insights can be found in existing scenarios about a future morality. The third step is an evaluation of the usefulness of the theoretical insights for a heuristic of moral imagination. The kind of changes found in the novels, as well as the ways in which these changes can be imagined and experienced are things that will be focused on in this evaluation.

Chapter 2

Theoretical framework

This chapter provides a theoretical basis for a heuristic, that can be used in optimizing narratives about the co-evolution of technology and morality for stimulating the readers' imagination. In the remainder of this paper I will repeatedly reflect on the following issues:

1. Kinds of moral change;
2. Experiencing moral change;
3. Optimizing imagination.

The first issue will be addressed in the first section of this chapter. I will show that the kind of change that needs to be experienced is of a different kind than what we are used to in everyday life moral reasoning. Regarding the second issue I will argue in the second section that imagination is crucial for making a reflexive ethics of technology possible because it provides readers with new experiences. These aspects are used for reflection, showing the limits and scope of a heuristic of moral imagination through the following chapters.

In the third, fourth and fifth section I will develop a heuristic based on theoretical insights about how to optimize imagination in such way that moral change can be experienced optimally. The main focus in these three sections will be on latter aspect since this is most important for solving the main problem of this essay. This will be the aspect for which I will define a heuristic.

Since no single author can answer this question sufficiently I will combine the ideas of two authors. The third section shows Mark Johnson's account of moral imagination. He argues for a role for metaphors in stimulating moral imagination. His agenda is however different from my agenda, and he does therefore not show how metaphors can best be used in to make narratives more effective in stimulating readers' imagination. Wayne Booth on the other hand does show what effective narratives are. Booth uses a different agenda which is to morally judge narratives. He does provide criteria for the role of metaphors in narratives and defines what it needs for metaphors to be good metaphors. The properties of good metaphors that Booth defines can be used to infer guidelines that can be used as a heuristic for writing narratives.

A different morality

Morality is the set of moral values, moral norms and moral routines in a society, determining what is right and wrong in a fundamental way.² A moral value like autonomy, happiness, freedom, life and health are examples of values they are regarded intrinsic values; they are valuable in themselves regardless what they serve for. Other values like politeness and courage are more instrumental; they serve some goal. Moral norms are rules that guide people in certain situations. They are related to values in the sense that they make the pursuit or achievement of values possible and show what is good or bad. An example is 'thou shalt not kill' which is a norm related to the value of life. Moral principles define what is important to focus on in moral reasoning. One can for example reason consequentialistic, in which the outcome of an action determines what is good or bad, regardless how this outcome is reached. Another way is deontological reasoning, in which the action itself is morally good or bad regardless the outcome. These two views are extremes but there are many ethical theories in between.

Pragmatic ethics holds the view that morality is not something fixed. Values and norms change and in different situations different principles are used; sometimes consequentialistic, sometimes deontological. They can for example be subject to change when something happens in society; war and economic collapse will for example make stability more important and a hungry person will value food more than someone ill or someone just coming out of a restaurant. Some values are subject of fast change while other values like autonomy remain important over a longer period.

One of the driving factors in moral change is technology. Technologies and technological developments can create new possibilities and interests and can therefore make some values become more important and make norms shift. This works in two directions; a different morality can also make some technologies change. The IVF example from the former chapter illustrates this. One of the reasons that IVF became possible was the sexual revolution in which moral norms changed. Morality thus shaped the embedding of a new technology but it worked also in the other direction. Because IVF created possibilities, it also changed morality.

Regarding the first issue that was addressed in the introduction of this chapter, kinds of moral change, we can conclude that what the different morality that must be the subject of our imagination is a future morality with different moral values, moral norms or moral principles as a cause or effect of technological developments.

The key: experience

The main goal of this essay is to make a reflexive ethics of technology possible and therefore we should overcome the thinking merely in terms of the prevailing technology and morality. Instead we should be able to think in terms of another morality. The problem that was addressed in the previous chapter is that moral

² Ethics is the study of morality.

routines prevent us from doing just so and that moral imagination can play an important role here.

A first question is what moral imagination is, and why is it such an interesting phenomenon to focus on, and why should it be stimulated? Imagination in everyday language is often used to refer to creative thinking and crossing boundaries. In several encyclopedias imagination is defined as the ability to form mental images.³ When we use our imagination, we deduce ‘something’ new from what is already in your mind. We can for example imagine how it must be to walk in the desert, when we have only experienced hot weather and walked on the beach. Previous experience of hot air and the feeling of sand might help us to deduce this new experience. Imagination might in the same fashion help us to find new applications of an existing tool: a screwdriver when no crowbar is present at hand. It helps us to think outside the box. Imagination can also help us to visualize or concretize abstract issues like equations and puzzles. Imagination can play an important role in the understanding and learning of difficult issues and can help us thinking a few steps ahead. In the same fashion we can imagine a different morality. We can use mental imagines consisting of previous experiences and build new images that let us experience a new morality. We can imagine how it must be to have different norms, values and principles. We can call this kind of imagination moral imagination.

This term should not be confused with other conceptions of moral imagination. The term is namely also used to refer to imagination as used in moral deliberation, for problems that lie in the present.⁴ Moral deliberation often requires us to think outside the box, broaden our mind or widen our perspective. We often have to weigh different moral values and determine what principles to apply. In moral deliberation, we often draw from our own experience when we need to find a solution. We can think of similar cases and then compare and evaluate these in our mind. When evaluating a problem like ‘should I stand up and tell the truth?’ we can think of similar cases in which the same issue was at hand. Imagination can also help us in feeling how someone else must feel in a given situation. It helps us in becoming more empathic. We can imaginatively step in someone’s shoes and experience how it must be if I do not stand up and tell the truth. Imagination can thus help us to ‘try out’ several options in our mind and see whether or not a solution might work given the possible consequences. Steven Fesmire formulates imagination in John Dewey’s central sense as the capacity to concretely perceive what is before us in light of what could be and as something that is so much an integral part of human activity as muscular movement (Fesmeyer, 2003, pp. 64-65). The different conceptions of moral imagination and imagination in general, are not essentially different. The process of imagination is in all cases the same, the difference lies in the object of imagination. The term moral imagination is in this essay not used to refer to imagination in moral deliberation but to refer to imagination of a different future morality.

What it boils down to is that experience is the key in trying to overcome our moral shadow. In our mind we have a bucket, partly filled with experience. Part of

³ See for example the Wikipedia entry on imagination.

⁴ Moral imagination is in both cases not called this way because it has moral worth but because of its subject.

this experience is real life experience. In moral deliberation, we draw our moral routines and the possibilities from which we have to choose from this bucket. Our imagination also draws from this bucket. We have seen that imagination is basically a process of deduction. In this process experiences are drawn from the bucket, new experiences are created and poured in the bucket. As a result, the amount of experience in the bucket grows.

Our imagination can be triggered in a process of moral deliberation in case new possibilities are needed or when possibilities are tried out. The lack of experience triggers us to create new experiences. Deliberation and imagination are limited because both draw from the same bucket which is only filled with a limited amount of experience both quantitatively and qualitatively. Our experience is not only limited because we are walking on this planet for a limited time, it is also limited because we live in a limited environment and because we (selectively) forget things. Our moral routines can be overcome by filling the bucket with new fresh experiences, and by triggering our imagination to create new experiences. We must avoid experiences to sink to the bottom of the bucket and become forgotten. Instead, we need experience constantly flowing into the bucket, formed by imagination. Because they are formed by the imagination, experiences will less likely sink to the bottom. What we need to do is constantly trigger the imagination.

In conclusion we can say that moral imagination can make a reflexive ethics of technology possible because it allows us to create and experience different moralities consisting of different values, norms and principles. Condition is however that moral imagination is stimulated optimally. Optimizing imagination in narratives can be done by tackling the two reasons why imagination is limited.

Narratives can provide new experiences and readers can be stimulated to use 'old' experiences. At first sight it seems that a common sense approach towards the stimulation of imagination can do just that. The question is whether or not we really need a heuristic of moral imagination. Common sense might be enough as an approach in making narratives more effective in stimulating imagination. This can best be explained by showing what narratives are capable of. In general, a narrative is an account of connected events or a story. These events can both be real or fictional and can be written down, spoken or just imagined. In the former chapter I showed that of the goals is that narratives must describe the co-evolution of technology and morality.⁵ For this reason I will refer to written narratives in the remainder of this essay. Experience provided by narratives can be used to imagine and experience new situations. After just having read a narrative, it is not that hard to use it in a process of imagination. The problem is that after a while experience sink to the bottom of our mind and become forgotten. Common sense does bring us very far in solving the problem in several aspects.

A first general point about all literature is more a point of personal preference, the style of writing. When readers are too busy interpreting a text they will less likely be caught by its content. A morality in a structured and easy to read story will more likely enter the readers' moral deliberation. Another more general

⁵ Swierstra and Stemerding expect narratives partly to have a didactic function. According to Wayne Booth, all narratives are didactic since they all learn the readers something (Booth, 1988, p. 151). What is important to remind in this context is that the narratives for our purpose contain the insights about the co-evolution of technology and morality. As long as this is the case, they will be didactic.

point is that narratives in general make people become involved because they can sympathize with the characters in it. The character might let readers think of someone else, but also the position a character is in might make readers sympathize. Readers go through the same experience as the characters in the narrative and experience the same morality. During this experience readers can more easily let go their own moral routines.

But stories in general are written for a target group. People who like science fiction will probably not appreciate regional novels and vice versa. It is the whole setting and context of the story that must be adapted to the target group. People must become involved with the story. A different morality put in a future context will probably not enter moral deliberation of people who appreciate regional novels as much as for appreciators of science fiction. A title like 'Your Farm is My Home' is more appealing for old ladies than for people who like novels like '1984'. Related to this point is the idea that the context or issues in it must be acceptable for the readers. Many ideas in science fiction or fiction in general, will look alien to lovers of regional novels and vice versa. Many people have difficulties in accepting fictional ideas. Many readers of science fiction like to think of complex issues like different societies, technologies and space-time paradoxes. Philip K. Dick's novels are for example popular because of the richness of ideas and themes like personal identity and technology gone wrong.⁶ His ideas are used in many other science fiction novels and movies like total recall and minority report.

Some ideas are more intriguing and recognizable because they are about societal issues regarding technology. In early science fiction movies like *Metropolis* (1927) and *Modern Times* (1936) we see the fear for a mega machine society. This fear was induced by the technological progress after the industrial revolution. The 1950's were characterized by optimism where technology was seen as giving possibilities like for example in the movie *Mon Oncle* (1958). The cold war made post apocalyptic movies like *Mad Max* (1979) and *Bladerunner* (1982) popular. Lately there is again a shift towards a more optimistic view towards technological possibilities in which transhumanism is a central theme with movies like *Animatrix* (2003).⁷

A final point about the question why the experience provided by a narrative could enter moral imagination is that of ambiguity. In order to make the experience of a different morality enter moral imagination, readers need to do some thinking about that morality. When everything is entirely clear to them, the morality will more likely be forgotten rather than being remembered.

What we can learn from this is that common sense does provide ideas about narratives from stimulating readers' imagination. These ideas can be used in a heuristic. Such a heuristic provides rule of thumb, a strategy that can be used for focusing authors on the main goal of the narratives and on the several aspects that make narratives stimulate the imagination. Common sense gives us some clue of how imagination can be stimulated but lacks any theoretical background. We know that when narratives have some ambiguity in their story, the morality in it enters the imagination because readers start thinking about it. Narratives can in the same

⁶ This author will be further introduced in the third chapter.

⁷ With thanks to dr. ir. Fokko Jan Dijksterhuis who gave a lecture about the history of the future on March 20th 2007 at the University of Twente.

fashion be adapted to a target group. A heuristic based on such insights it is a rough approach and can stimulate the imagination to some extent. It might be that some aspect of narratives have been forgotten. A heuristic based on philosophical ideas might be more detailed, accurate and complete. Another reason for using a more advanced heuristic is that authors are more likely to accept it rather than one based on common sense.

Regarding the second issue that is formulated in the introduction of this chapter, experiencing moral change, we have seen that imagination allows us to create and experience different moralities consisting of different values, norms and principles. This helps us to think otherwise than merely in terms of the moral routines in which we are stuck and makes a reflexive ethics of technology possible. Our experience and therefore our imagination are limited and we therefore need to stimulate it. Narratives can contain elements that stimulate the imagination and can provide new experiences. A heuristic based on philosophical insights can optimize narratives for stimulating the readers' imagination.

The third issue, optimizing imagination, is subject in the remainder of this chapter. Mark Johnson is a theorist that has written a lot about moral imagination and linguistics. His account shows that metaphors play an important role in moral imagination. These insights can help us to give a more detailed explanation of how imagination can be stimulated. Johnson's agenda is not similar to ours and we can therefore not directly infer a heuristic from his ideas. His account of metaphors does however allow us to use ideas from the theorist Wayne Booth. These are ideas about how metaphors must look like to be effective. In the next two sections I will show what both theorists have to offer for my agenda: knowing how moral change can be experienced and therefore how narratives can be optimized for stimulating readers' imagination.

Mark Johnson's account of moral imagination

In this section I show how imagination can be optimized using the philosophy of Mark Johnson. He bases his ideas on insights from cognitive science and linguistics. Moral reasoning is according to him more than merely deducing principles, it is basically an imaginative activity (Johnson, 1985) (Johnson, 1993) (Coeckelbergh, 2007). Imagination is something that enables us to use our past experiences. We need it in finding out what is morally relevant in a given situation, to become emphatically involved with other people and to envision the full range of possibilities. In order to do this, we construct or compose in our mind new situations in which new characters are defined, new problems arise and events happen. These scenarios have a narrative form. Within these narratives several things happen, relationships are built, interests must be harmonized, competing values and goods must be balanced. We need this exploration in order to know what it might mean to perform a certain action in terms of consequences and commitment. Johnson mentions literature, especially fiction as a laboratory in which the implications of character and choice can be explored.

The idea of exploration and composing new situations in our mind in which new characters are defined, new problems arise and events happen is completely compatible with the moral change that we need to be imagined. The question now is how a different morality according to Johnson can be imagined and experienced.

Johnson argues for a role for metaphors. Metaphors are for Johnson not merely tools for poets but are part of everyday speech, perception and thought, both moral and non-moral (Lakoff & Johnson, 1980). Moral concepts are defined metaphorically and our conceptualization depends on metaphors. Metaphors enable us to grow in our moral understanding since they allow us to learn from our experience. Johnson defines (together with Lakoff) the essence of metaphors as the understanding and experiencing one kind of thing in terms of another (Lakoff & Johnson, 1980, p. 455). Johnson distinguishes three ways in which metaphors play a role in moral deliberation.

1. Metaphors make different ways of conceptualizing situations possible.
2. Metaphors make an understanding possible of the central concepts of morality like will, reason, purpose, right, good, duty, well being, etc.
3. Metaphors help in constructing analogies and help in constructing new cases or situations that go beyond clear and prototypical cases.

One of the roles that metaphors play in our moral deliberation is that they make different ways of conceptualizing situations possible. An example of conceptualizing using metaphors is the co-evolution of technology and morality. Evolution here is used as a metaphor to stress the point that technology and morality change. The word co-evolution also makes clear, with very little words, that the evolution of technology and morality does not take place separately. It also stimulates the imagination more than mere plain text. The evolution metaphor enables a different way of conceptualizing this particular situation. If we know by experience how the whole idea of evolution works, we can draw analogies towards other similar situations and use this experience in the understanding of the way technology and morality change.

Looking at the definition of what metaphors are and what they do, metaphors should make a moral change imaginable. They make readers experience a new morality in terms of other experiences.

This account of moral imagination and metaphors is therefore compatible with the kind of change that readers need to imagine. Imagine a society in which people have become more involved with each other, have more empathy, more love for other people etc. We can then for example say that nation has become like a family. Family is here used as a metaphor. It allows readers to use experience with family to build and experience a new situation.

Johnson's ideas about metaphors do bring me very far. They allow me to define the scope and focus of the heuristic. The heuristic in its turn allows authors to focus on letting readers experience a new morality in terms of other experience. But in order to define guidelines, I need some ideas about how metaphors must look like to be effective. Wayne Booth's account of metaphors can supplement the ideas of Johnson in such way that a heuristic of moral imagination can be defined.

Wayne Booth's account of metaphors

So far I have shown that it is important to let readers experience a different morality consisting of different moral values, moral norms and moral principles. I have also shown that metaphors can play an important role because they make

readers experience a new morality in terms of previous experiences. The 'nation is like family' metaphor shows a problem that does not just count for this metaphor. The metaphor is not equally effective for all readers since some people lack experience with family. It is not automatically the case that metaphors can optimize narratives, and it is therefore important to incorporate ideas about the effectiveness of metaphors in our heuristic.

Wayne Booth (1988), describes in *The Company We Keep* how narratives change our (moral) thinking. Booth's problem is that people morally judge narratives because they have a negative effect on their readers. They cannot say exactly why and how narratives might have this effect. Booth's is showing how moral judgments about narratives can become more intellectual. He thinks that critique against novels is based on speculation and on fear of the effect of novels on people's behavior.

Two chapters in this book are dedicated to the 'figuring' of the mind by means of metaphors. These chapters are most interesting for my agenda. Booth explains here in detail what it requires for metaphors to enter the mind of the readers and become part of the imagination.

Booth thinks of imagination as containing, or as capable of employing, a collection of images that the readers have recreated in their experience of narratives (p. 293). When reading narratives, the mind rebuilds existing mental images in order to visualize the story. I can for example imagine a landscape that is described in the narrative. The images that I have recreated become part of my mind and can only be repressed not be erased. Booth uses horror movies as an example, some are black and white and some show no bloody details. He states that we create the details in our mind and in such a way that they will not easily go away. We can for example imagine the blood in black and white movies being red. Although narratives about the co-evolution of technology and morality are of a different order than the movies mentioned by Booth, they can still provide images that are capable of becoming part of my mind. A narrative can describe how technological change induces changes in morality and vice versa in such a way that this different morality can be quite frightening. The readers can for example identify with the different subjects who become misfits according to the new morality. Different moralities in narratives can leave big impressions that, as Booth calls it, can only be suppressed but will not easily go away. In the next two chapters I will give concrete examples of impressive different moralities by reviewing two narratives.

The question is then what kind of images become part of my mind and which images not. Some things impress me more than others. Things that impress me might not impress someone else and vice versa. According to Booth, no one will ever explain why some images stick with me and others with someone else. What does on the other hand count for everybody is the fact that the images that are created with most mental energy (figuring out, adrenaline, horror/fright) stick most. Figurative language will engage more mental energy than plain language. This engagement will result in some kind of intimacy with the image. The mental energy will be used in retaining the image and the bonding with the readers. For example, many texts provide different hard to understand metaphors. The readers want to understand these and put energy in the reconstruction. After the reconstruction, this energy is used in rejection or in the bonding with the story. It is on the other hand also possible that readers are not touched at all by this particular

metaphor. This does not mean that they cannot be touched by other metaphors. Metaphors that capture a different future morality might be useful. It is therefore important for the author to win the readers by triggering their mental energy. A future scenario might frighten the readers and make them start thinking about how it possibly came this far.

So what scenario writers should do, following Booth's ideas, is creating a text, for example a narrative about the co-evolution of technology and morality that does not merely consist of plain language, but rather of figurative (or metaphorical) language. Readers of this text might find certain metaphors interesting. Maybe they had never heard of the term 'evolution' in another context than that of Darwin. The readers are mentally engaged in the sense that they start thinking about evolution and how it might work in the context of technology and morality. Because readers has put mental energy in the figuring and the understanding of this concept, it becomes part of their thinking.

In natural discourse we do mostly use clusters of metaphors, macro metaphors. The main difference is that micro-metaphors are fragments, separated from context that can also function in another context. Metaphors used in clusters reinforce each others direction to the main point and increase the each other's binding force.

Booth defines five criteria which are meant for effective writing and should provide a rich supply of standards for metaphors, that advice hoe to seek the best and avoid the worst. Booth's criteria are (pp. 312-318):

1. Good metaphors are active. Lending the energy of more animate things to what is less energetic or personal. They produce a more intense engagement and make things more animate.
2. Good metaphors are concise, economical. It can be considered a stylistic rule to convey as much as possible in a given number of words. Metaphors say more with less.
3. Metaphors are appropriate to the task at hand. The ends of the metaphors should be adjusted to the main point of the text.
4. Metaphors should be accommodated to the audience at hand. The metaphors must help to capture the audience at a precise moment in time.
5. Good metaphors are novel, original, striking. The whole point of a metaphor is to let the readers invent a new perspective, to let the readers see a new story in place of an old one.

According to Booth, there are also alternatives, suggesting how to write rhetorically. These are mostly simplifications resulting in some standards that only suggest that metaphors should be coherent and true. They must be coherent in the sense that they are not mixed with other metaphors and true in the sense that they are accurate or adequate. According to Booth it is foolish to ignore these standards but we must keep in mind that a violation is not necessarily wrong but is depending on the context, not necessarily for a given metaphor. What we need is more criteria with which the effectiveness of metaphors can be evaluated. For Booth these criteria help to morally judge the metaphors in texts, for me it helps in defining a

heuristic of moral imagination. Before I can do this, I will first take some other steps.

Further steps

In the previous sections of this chapter I have shown that metaphors can optimize readers' imagination, because they allow them to experience a future morality in terms of other previous experience. In the second section I have argued that a heuristic of moral imagination would be more precise and complete when based on philosophical insights rather than on common sense. A case study showing how theory works in practice, might give even more insights resulting in a better heuristic. In the following two chapters such a case study is conducted, in which two classical science fiction novels are screened on the kinds of moral change that they describe, and on how this moral change can be experienced. The insights of these case studies are used to show how the theories about how to optimize imagination work in practice and as a basis for a heuristic of moral imagination.

The two chosen novels are Philip K. Dicks *Do Androids Dream of Electric Sheep?* (1968) and Aldous Huxley's *Brave New World* (1932). Both novels describe a society in which several technological developments caused a change in the morality or vice versa. They are in this respect thus examples of narratives describing a different morality. Each of the two following chapters gives an introduction to the author and a brief description of the society in which the novel plays. This is followed by an analysis of the kind of response that the novel triggers, a reconstruction of the novel's morality and an evaluation of how this morality can be experienced by the readers. The focus will hereby be on the use of metaphors. The analysis must be seen as an interpretation of the novel's morality; not necessarily as intended by the author. I will hereby not reveal too much of the story's plot; only what is relevant for my point.

If a certain value has become important, the author evidently wants to let the readers experience it. For each value I will look how the author lets the readers experience the importance of it. As this is probably done by appealing to some other experience, it is also done in terms of a definition of metaphors.

Booth defines metaphors as figurative language. This definition makes almost all language metaphorical and is too broad in its scope. In order to make a case study possible, I will therefore use a more narrow conception of metaphor, that also shows what metaphors do. Several dictionaries describe metaphors as language that compares two things that at first seem unrelated to each other. The expression 'time is money' is an example in which some properties of money are used to stress the sparseness of time. The Cambridge dictionary defines metaphor as "an expression that describes a person or object by referring to something that is considered to possess similar characteristics." The definition that Lakoff and Johnson give is similar to that of the dictionaries. They define the essence of metaphor as the understanding and experiencing of one kind of thing or experience in terms of another (Lakoff & Johnson, 1980, p. 455).

Not all metaphors are necessarily explicitly present in narratives like the time is money metaphor. Theories on metaphors distinguish two types of metaphors, conceptual metaphors and root metaphors. The latter requires a certain worldview like "life is an endless circle" or "life is an arrow". The former helps in

the understanding of one conceptual domain in terms of another. Such a domain can be any experience. Theory on conceptual metaphors distinguish two domains, a more abstract target domain which must be understood and a source domain.⁸ In the ‘time is money’ metaphor, time is the target domain and money the source domain. Between these domains there exists a set of correspondences between elements that are present in both domains like having a predicate, being separated and being forced to be sterilized. This set of correspondence is called a mapping. The metaphor can be known by understanding the mapping. The experiencing of the novels’ morality will be analyzed in terms of the following definition:

Metaphors are explicit or implicit textual elements that make possible an understanding and experiencing of one kind of thing or experience in terms of another.

The insights of these case studies are in the fifth and final chapter used to show how the theories about how to optimize imagination, work in practice and as a basis for a heuristic of moral imagination.

⁸ Sources: <http://en.wikipedia.org/wiki/Metaphor> and http://en.wikipedia.org/wiki/Conceptual_metaphor, retrieved October 24th 2007

Chapter 3

Do Androids Dream of Electric Sheep?

Philip Kindred Dick (1928-1982) was an American science fiction author.⁹ He wrote many novels and short stories of which many are adopted in films. He was interested in history, religion, philosophy and Gnosticism. Dick was also influenced by the writing of the C.G. Jung and adopted ideas about the collective unconscious, group projection and personality theory. Recurring themes in his writings are personal identity, technology gone wrong, time paradoxes and mind expansion.

Dick's novel *Do Androids Dream of Electric Sheep?* describes the aftermath of a nuclear war called World War Terminus. Radiation makes earth almost inhabitable, most animals are extinct, and the remaining people suffer from mental and physical deterioration. Because animals have become almost extinct, they are highly valued. In order to avoid further deterioration, most of the surviving people have left earth in one of the colony programs have started on near planets. In order to help in the colonizing programs, people have created humanoid robots or androids, that are used as slaves, they have become so sophisticated that they are almost indistinguishable from human beings. Androids are not allowed on earth but do sometimes escape on one of the colonies and flee to earth. People have to qualify for being allowed to participate in the colonization program. In order to qualify, they need to have a certain IQ level. Most of the people remaining on earth are labeled as 'special' because they have failed to qualify. The story takes place in San Francisco where the level of nuclear radiation is relatively low. The main character of the novel is Rick Deckard, not a special but a bounty hunter who stalks and kills (called retirement) escaped androids. Deckard is driven by the will to possess a real animal, which he can buy when he retires a few more androids.

The novel describes four important values in the novel's society: mental health, authenticity and empathy. In our society, these values are also of importance; air pollution has made health and the environment become more prominent. As a result we change norms and apply different principles. It has for example become immoral to use certain spray paints or to smoke in a restaurant. Authenticity has been one of the issues in the recent cloning debate. We do not

⁹ See the Philip K. Dick entry on Wikipedia and www.philipdick.com for more info.

want copies of ourselves walking around. Health and the environment are nowadays important values because we can still save the earth and the human race.

The main difference between our society and that of the novel is that values in the novel become even more prominent due to societal and technological developments. World War Terminus has brought the environment and for many people health, beyond rescue. The earth is polluted with radioactivity and cannot be saved anymore. The fate of the earth is to become dead and filled with kibble (dirt and trash) and the environment is in that sense highly valued anymore. For this reason, there are no environmental norms anymore. It is not possible to do anything wrong; everything will turn into kibble anyway.

In the following sections I will explain more detailed why health, authenticity and empathy have changed as a value and how the readers can imagine this morality.

Mental health

Mental health has in our society always been of importance. The increasing knowledge of psychology makes people more aware of their mental health, gives more attention to this value, and makes it of more importance. Three different things make mental health more prominent in the novel. The first is the degeneration of people due to the radioactive radiation; affecting their mental capabilities and making most of the remaining people become specials. The other is the burden that life on earth brings. In order to escape their real feelings, people can use a so called Penfield mood organ. This device allows people to feel different emotions, from 'despair about being alone' to 'the desire to watch TV, no matter what's on it' and 'awareness of the manifold possibilities open to me in the future'. There are similarities with our society. We have drugs that bring people in a certain mood. We not only reject it because it is unhealthy and addictive, but also because it is artificial. In the novel, the Penfield mood organ is in contrast to our drugs totally accepted. A third point is the technological possibility to physically separate people that are affected by the radiation and people who are not. This makes mental health extra important. The only explicit norm mentioned in the novel regarding mental health, a certain IQ level, is an imposed norm. Strictly speaking this is not a moral norm. People who are mentally unhealthy have fewer legal rights; they are for example not allowed to leave earth. The norm also functions in a moral sense. People get the predicate special and have also on earth less moral status than the genetically intact regular people have. In other words: in order to have some moral status, one must be a regular. Another change in norms is the widely acceptance of artificial moods or emotions.

The situation is analogous to the many other situations in which people are separated on a basis of for example ethnicity. The question is whether or not we, in order to experience this situation better, need an explicit reference to these situations in a narrative. People might try by themselves to understand this situation in terms of experience of another situation. After having read that specials were sterilized, I for example immediately thought of the Jews just before World

War Two who were in a similar situation.¹⁰ What happens in Booth's terms is that my mind rebuilds existing mental images to visualize the story.

What Dick shows is a different morality in which mental health is an important value. As a result a new group of people came into being. In order to let the readers experience the position of this group, Dick lets the readers experience this situation in terms of another, namely the injustice done to the Jews in World War Two. He doesn't do this by giving explicit metaphors like schlemiel or schlub, but rather by giving some clues that together form a metaphor. It is the figuring out and the horror that engages the mental energy.

When everything is going well, mental health becomes less important in the sense that it does not get as much attention as when problems arise. The dirty earth and the loneliness makes that the Penfield artificial brain stimulation becomes accepted for cheering up the remaining people. Deckard for example only starts using the Penfield in the end of the novel when he becomes depressed. People accept the fact that their emotions become technological mediated. The idea of a present at hand device that can be dialed, does immediately make me think of a telephone and the idea that emotions can be artificially mediated by means of alcohol or drugs. Again I use these images to visualize the story and experience the idea of present at hand artificial emotions in terms of other experiences. The value of mental health makes people act differently. There is a dichotomy of specials and regulars as well as the use of technological mediated emotions.

Dick does not use explicit metaphors but rather lets the readers make their own assumptions by giving clues, thereby assuming the readers to have a certain experience. The metaphors are not explicit devices but let the readers experience something in terms of another. Dick uses correspondences in helping to link one conceptual domain to another. In the novel the target domain is the situation of the specials and the source domain the situation of the Jew during World War Two. Between these domains there exists a set of correspondences between elements that are present in both domains like having a predicate, being separated and being forced to be sterilized.

Authenticity

The boundaries between things, animals and human beings are in our society easy to draw, and authenticity is not much of an issue. In the novel, people have created humanoid robots and artificial animals. People have the technological ability to make things more like humans or like animals and the ability to make humans as well as animals more artificial. The distinction between what is a thing and what is alive becomes blurred. As a result authenticity becomes an issue. As long as humanoid robots are not very humanoid, they can more easily be considered things but when these 'things' become almost indistinguishable from humans, people start to value their own authenticity more. Many real animals have become extinct and

¹⁰ Note that there were many other eugenics programs in the United States, Sweden and the United Kingdom. The Nazi program is distinctive from other eugenics programs in its scale, ferocity, racial orientation and demands for absolute submission (Buchanan et al., 2000, pp. 30-40). This is probably why this experience triggers more mental energy than the other programs.

have gained a fetish status. This enlarges the gap between the status of a thing and a real animal. Fake animals can be replaced but real animals are sacred and must not be killed. What is considered authentic is in both cases a real animal and a real human being; a clear norm.

One of the metaphors most prevalent in the novel is the 'thing' metaphor. It brings both fake animals and androids in the realm of things. They, things, have no moral value but rather some instrumental value and can be replaced when broken. In other words: a fake animal is like a thing, it has the properties of a thing, it is dead and serves a purpose. The same counts for androids. Humans and the few real animals are on the other side of the spectrum; they are real. The makers of fake animals and androids try to let them move along the spectrum towards the realm of what is real. Things act as if they are authentic beings. Fake animals act for example as if they are ill when the battery becomes empty. Androids become almost indistinguishable from real people. This does however not help them in becoming accepted. The fakes are within the novel's morality not even accepted as being partly real.

The thing metaphor helps to keep the fakes as much on one side of the spectrum as possible, and lets the readers experience that. Other predicates that are applied to these animals and androids are fake and replica of which the latter normally only applies to things like for example cars. Fake can be used for things or for money but also as a predicate for people and can for example be used to stress that someone's behavior is not authentic to that person. He or she is for example 'mimicking' someone else.

In order to understand authenticity as an important value, the readers must understand the moral gap between things and life in the novel's morality. The problem is that things might look too much alive to the readers. Dick conceptualizes the situation by referring to the readers' experience of things. The source domain here is the experience of dead things. The target domain is a world in which things are much like human beings and animals but do not have their status.

The things metaphor helps to understand the opposite of what is considered authentic in the novel's morality. For being an authentic human, reference is made towards the mental faculty empathy. I will treat this as another value in the novel's morality. Real animals are valued because many of them are extinct and because the rest is endangered. Owning an animal is considered a status symbol but also a civic virtue. The so called Sydney's Catalog lists all animals including the extinct, and values them by their rarity. The price for which animals are sold depends on their value in Sydney's Catalog.

In the novel, there are different metaphors used to show the importance of authenticity as a value. These metaphors help in conceptualizing a situation in which real animals have gained a high moral status. The situation is in essence not much different from today's situation in the sense that some animals are extinct in our world. Also in the time in which Dick wrote the novel. The same thing counts for animals as merchandise with a catalogue value like normal pets but especially expensive animals like breeding bulls and race horses. The main difference with today's situation is its scale. Today, almost extinct animals like polar bears, breeding bulls and race horses have a higher value than many other animals like pets and cattle. Animals are in a sense in our world valued by their rarity. The main

difference is that in the novel all real animals have become like our breeding bulls and race horses. The comparison with the rare expensive animals in our society helps me to understand the situation in the novel and helps me to experience one situation in terms of another familiar situation. In that sense the situation of these animals serves as a metaphor for the situation in the novel. This conceptual metaphor helps me to understand the almost absolute value of animals.¹¹ The association of the real animals in the novel with today's rare and expensive animals is a personal association. Sydney's catalogue and the rarity of animals are a set of correspondence between the two domains that help me to construct the value of a race horse as a metaphor for all real animals in the novel.

Empathy

In our morality, empathy has an important role. It helps us to put ourselves in someone else's shoes and imagine what someone else (possibly) feels. It helps us in weighing possible consequences of different options. Most people think empathy is crucial for moral reasoning; some think empathy is morally worthless. Having empathy is in the novel's morality highly valued. Empathy has become a virtue for several reasons. First, empathy helps sharing the burden of life on earth. Life on earth is not easy; people are affected by the radiation and feel alone. Second, an empathic person cannot be a killer. Not just because people respect life but because they identify with it; empathy protects life.

A property of narratives is that it involves the use of characters. Readers can become involved and empathic with the characters. The role of metaphor in this context is letting the readers experience the role of empathy in the novel in terms of some other familiar experience. Can we experience how it must be to have empathy as the core moral value and norm?

The most obvious way of understanding and experiencing the role of empathy in the novel's society is in terms of religion; there is a set of correspondence with religion like for example modern Christianity.¹² First there is a movement called Mercerism of which most people are followers and that made empathy explicitly the central virtue. Second, there is a role model, Mercer with which the followers identify. Third, the followers of Mercerism identify with each other and 'meet' each other regularly. Fourth, the followers share in these meetings the burden of their role model with each other. Fifth, people consider themselves as caretakers. Sixth, there is an absolute evil, conceptualized as 'the killers'. Finally, Mercerism is the solution for the survival of men. The movement requires people to sustain their empathy. This can be done by taking care of an animal and by fusing with Mercer. Fusing with Mercer is not done in some kind of church but by means of an empathy box. When fusing, people experience themselves as encompassing every other living thing; they hear the noise of many individual

¹¹ Animals do have a relative value depending on their rarity but in relation to fake animals and androids, they have an absolute value.

¹² The movie narrative *Bladerunner* (Scott, 1982) does not speak of a movement at all. It does however contain many other religious elements like Roy Baty meeting his maker, confesses the questionable things he has done, being called a prodigal son and pushing a nail through his hand (stigmata).

existences. There is also mental and spiritual identification with Mercer himself and the feeling of the killers that pluck him. This together brings empathy to a much higher level than it would be in normal engagement with people. If one fused person feels joy, everyone feels a bit of that joy, if one person suffers, everyone suffers. The idea of a movement around empathy draws more attention to it and makes it more explicit as a value.

The set of correspondence allows me to use Christianity as a metaphor for Mercerism. It helps me to understand the role of empathy for its followers in the novel's society. Most of Dick's readers will probably be familiar with at least some religious ideas and will probably use the same metaphor.

With regard to empathy also some explicit metaphors are used in the novel: herd animals and solitary predators resemble victim and hunter, humans and androids. The metaphor is used to explain the value of empathy in society, not just because of love for all life but also as a reassurance against the killers. A first assumption is that predators cannot use empathy towards their victims because it would make the predator conscious of the desire to live on part of his prey. This would prevent the killer from killing. For herd animals, empathy is very important. Because of empathy, the suffering of one herd animal is shared with the other animals making herd animals protecting each other. The only Mercerism rule mentioned in the novel is the rule of life. This rule states that one shall only kill the killers. Evidently, herd animals cannot become empathically involved with predators.

Summary and reflection

In the former sections I have reconstructed the novel's morality by focusing on some of the important values. These values are mental health, authenticity and empathy. In order to let the readers experience the role of these values in the novel's society Dick uses several constructions. These constructions have in common that they let the readers experience something in terms of another experience. This makes these constructions metaphorical by definition. Dick uses both explicit and implicit metaphors and both in different qualities. The explicitly used metaphors are the 'thing' metaphor and the 'herd animals versus predators' metaphor. Of the former no explanation is given, the latter metaphor is extensively explained in the novel, telling why people should have no empathy for androids. The more implicit metaphors are the Jews, the race horse and Christianity. These metaphors are implicit in the sense that none of them is mentioned explicitly but are formed in my brain. Dick gives several clues or correspondences appealing to the experience of the readers.

There are a few things important to notice, especially with regard to the implicitly used metaphors. The author writes for a certain target group and can thereby assume a certain level of experience. Most of Dick's readers will presumably live in the western society and will therefore to some extent be familiar with Christian religion. Evidently some people know more of this subject than other. This will make the metaphor powerful for some people while not for others. More clues will reduce ambiguity in the sense that they lead to a more specific metaphor, in this case Christian religion. A more specific metaphor requires specific experience, reducing the group of people that will be able to use and

understand the metaphor. In some cases it might be unavoidable to use specific metaphors for example when less ambiguity is needed. In many cases it does not matter whether or not a metaphor is ambiguous. The race horse can for example be replaced by the breeding bull without losing its meaning. Both serve as metaphor in the sense that they make the readers experience the value of a special rare uncommon animal with a high catalogue price. The difference is that the novel's world only has race horses and breeding bulls.

So far I have shown the use of metaphors in one novel. I will do the same for another novel, *Brave New World*. In the fifth chapter I will give a more detailed summary and reflection on both novels after which I will articulate a heuristic of moral imagination.

Chapter 4

Brave New World

Aldous Huxley (1894-1963) was an English author.¹³ His bibliography shows novels, essays, short stories, poetry and even a travel book. In many of his books he confronts religion, art, sex, politics and the illusions of the modern man. He is influenced by societal developments like the aftermath of World War One and has a pessimistic view towards the violent disruption of standards, conventions and values in his time but also towards the cultural future of society.

The time in which the novel was written, the aftermath of World War One, is also called the *roaring twenties* or the *jazz age*.¹⁴ This period is characterized by a break with traditions, women's rights, modernity, technological possibilities and the rise of radical political movements like communism and fascism.¹⁵ *Brave New World* is written as a parody on H. G. Wells' utopian novel *Men like Gods* (1923) and other optimistic utopian novels. The book gives a pessimistic view of the future which Huxley called a negative utopia; a stable healthy world with permanent happiness, no war and without poverty. The novel does not just counter technological optimism but also expresses concerns about the breaking with traditions and the place of the individual in communist thinking.¹⁶

The change in values like stability and happiness is a result of the nine years war and economic collapse. These values are not directly a result of technological development like the values authenticity and empathy in Dicks' novel. Stability can be achieved by removing things that cause instability like individuality, personal interests, love, passion, history, home, family and philosophy. Happiness can be achieved by letting people have sex, by providing drugs and by letting people do what they are meant to do. Technologies like eugenics, sleep teaching and conditioning enable a better achievement of these values. People can be cultivated and conditioned in factories, in batches at a time, to fulfill a certain task. Selection

¹³ See the Aldous Huxley entry on Wikipedia.

¹⁴ Roaring twenties and jazz age emphasizes the dynamism of this period in terms of what happened in social, artistic, and cultural aspects.

¹⁵ The Ku Klux Klan lived its peak during in the 1920's. Fascist movements are seen as a response to the rise of communism after the October Revolution and the Russian Civil War.

¹⁶ Some critics argued that the novel was too far ahead of its time. Huxley predicted several technologies that were only developed decades later. The novel's morale is however very topical of its time.

beforehand is done to create batches of different intelligence resulting in castes. These castes eliminate the need to compete with others. Society has become a 'cooperative venture for mutual advantage'; it is one big machine in which everybody is happy. People with less intelligence do the simpler jobs that would make the intelligent people unhappy. What we see in *Brave New World* is not a morality that has changed due to technological developments as in Dick's novel, but rather an appearance of a new value system that allows for the use of new technologies. Technology is therefore an enabling rather than a push factor. Technologies make a better achievement of this morality possible and, as a result, society becomes more mechanized, and the individual becomes even less important.

What makes *Brave New World* interesting in this respect is that it describes a different part of the co-evolution of technology and morality than Dick's novel does. Another thing in which *Brave New World* distinguished itself is that it also describes a different way of moral reasoning. Moral reasoning in a society without love, passion, culture and history, must be entirely different from moral reasoning in a society that does have all that. Morality must consist of different moral routines or ethical principles. Where Dick's novel does not show ways of moral reasoning that are essentially different from ours, *Brave New World* does.

As argued in the second chapter, imagining a different morality can be done using metaphors that let readers experience a morality in terms of other familiar experiences. Booth argued that some experiences become part of the mind while others do not. The 1920's are characterized by societal issues of a different order than contemporary issues.¹⁷ This means that, in Booth's terms, the novel or part of it are thought provoking in a different way in the 1920's than in the 2000's. One way of making a novel's morality thought provoking is by countering contemporary morality. Another more subtle possibility is by providing an at first sight very attractive morality that by closer consideration is not attractive at all. A third possibility is giving an absurd representation of a future morality. All these three possibilities have in common that they describe a different morality in which they use contemporary morality as reference.

In the following sections I will explain in more detail the change of the values stability, happiness and authenticity as well as their relation and a change in moral reasoning. The main goal is to show how this morality can be experienced in terms of other experiences. Several questions can be addressed. How the novel is thought provoking for readers in the 1920's and for me? It is reasonable to expect a difference here. What helps in experiencing the morality as described in the novel? Metaphors or something else? Is the novel thought provoking as some contemporary reviewers think of it, or is inert as a work of art in such a way that "Nothing can bring it alive" as a reviewer for the *British Journal 'New Statesman and Nation'* thought of it. What might be the reason for the differences?

¹⁷ Note that this is one of the reasons for using a rule appealing to the experience of the reader.

Individuality

In the 1920's with World War One fresh in memory, it not a strange thing to suggest stability and happiness as being very important. Having stability is not an unattractive idea. It is reasonable to suggest that stability can be achieved by removing things that increase instability and unhappiness. One of the things that characterizes the novel's morality and that make the novel thought provoking is the fact that the in the 1920's (and up till now) important value of individuality is given up in order to gain stability and happiness. It is this aspect that triggers most horror in the novel.

Individuality is characterized by the ability or the freedom to create personal values and goals and develop a personal identity. In the novel, people are discouraged to do this in several ways. People are for example part of one of the five castes. They are not valued by other people as an individual, but as an alpha, beta, gamma, delta or epsilon. The idea of having a caste system is not entirely new. Most people are familiar with the caste system in Hindu religion and can use it as a metaphor for understanding this new situation. The novel shows the reader that also the western world can have such a system if our society becomes like the one in Brave New World. This seems a little far fetched for some readers. More interesting is the idea that this situation is not essentially different in our society. We can experience this situation in terms of social class, educational level, etc.

Another issue regarding individuality is that people also do not achieve things anymore. They have no personal goals but do the jobs for which they are designed and not more. Next to work they sleep, are being entertained, have sex and use drugs. Their whole life is in service of consumption and production.¹⁸ Also this idea is not very new, especially in the 1920's, a time in which technology was seen by some as providing possibilities and by others as creating a mega machine and as alienating humanity. Here Huxley seems to counter communism that was seen in the 1920's as exactly doing what Huxley describes. Communism serves as a metaphor for a loss of individualism.¹⁹

Subjectivism and rationality are discouraged. People are not allowed to read philosophy, conduct science, conduct art, being spiritual and like things other than what they are supposed to like etc. It is especially this aspect of individuality that was important in the 1920's. People started to see themselves as modern and break with traditions, they follow new trends in art, social behavior and culture and give more emphasis on pleasure and enjoyment. It is the difference with the values in the 1920's that makes this new morality in the novel most shocking.

A final point is that even sex is not something between two individuals anymore. Romance is gone and the most sacred thing between two individuals, man and wife has vanished. Instead, it has become normal and is encouraged to have sex in groups; in orgies. The new trends in social behavior of the 1920's made sexuality less taboo until the 1930's-1950's that are seen as more conservative. Huxley amplifies this trend and gives a picture of a world in which everything is possible. Birth control is totally accepted and sexuality has lost its meaning as

¹⁸ They have become some kind of 'maagmens' (Jacques de Kadt) and Henry Ford has become their role model.

¹⁹ An absurdity is that Huxley sketches a communist society with castes.

something between two individuals, mainly because there are no individuals anymore.

Interesting is that Huxley in many cases appeals to current morality. He does not provide a slightly different morality that can be experienced in terms of another experience but he rather provides pictures that are absurd and controversial in light of current morality.

Stability

Stability is for the Brave New Worlders the primal and ultimate need. They think that no civilization can function without social stability, which cannot exist without individual stability. Stability has intrinsic value because it does not have instrumental value; it does not serve to reach something else but is a goal in itself.

Readers can for example experience the value of stability in terms of experience with other values that have intrinsic worth like life, health, wisdom etc. Other values are instrumental in the sense that they help to achieve these intrinsic values. They allow for concessions and weighing to be done. Intrinsic values are more absolute. The value of life, for example can serve as a metaphor for the value of stability. In the same way as the value of life guides our actions in our society, the value of stability guides the actions of the Brave New Worlders. The problem is that the readers must be aware of the difference between instrumental and intrinsic values in order to make create a link between life and stability. There are however other ways to experience stability as the most important value.

Understanding the logic of conditioning in order to gain stability also helps in experiencing this morality. In order to gain individual stability, the Brave New Worlders give up everything that can be considered a treat to stability: change, emotions and individuality. The Brave New Worlders consider every change a menace to stability and are therefore reluctant to use new inventions or conduct science. Science is even treated as a possible enemy. Emotions are dangerous because they are personal and intimate and therefore influence the individual. The Brave New World government discourages therefore these 'intense human characteristics' as the novel calls it. Making copies of human beings, also called 'Bokanovsky's Process', is one of the major instruments of social stability. These copies are in the novel seen as the foundation on which everything is built and as gyroscopes that stabilize the rocket plane. The foundation and the gyroscope are two of the few explicit metaphors used in the novel.

Trying to understand the logic behind the need for stability might require an agent to imagine similar situations in which stability becomes a need. The war and economic collapse that are mentioned in the novel as the main reason for recovering stability, can serve as metaphors. Also traditional stable homogenous societies like Amish villages and ethnic neighborhoods can serve as metaphor. They can help the readers to experience the need for stability in a more abstract situation in terms of more familiar experiences. It is in a sense not hard to imagine the need for stability in an unstable situation because we have experienced several unstable situations ourselves.

It is not just war and economic collapse in which stability comes more to the foreground in our society. Also smaller situations like arguments or unemployment in which the 'normal' situation is affected bring the need to regain stability. Also in

that sense we are not unfamiliar with stability. We might however hold a different conception of stability than the Brave New Worlders do. The Brave New Worlders would count our society unstable while we think it otherwise. We can experience their conception of stability in terms of our own, although we know that there is a difference in grade.

Another way is to observe that the Brave New Worlders are conditioned to value stability. The Brave New Worlders are conditioned from the moment they were embryos. This 'neo-Pavlovian' conditioning includes the World State motto "Community, Identity, Stability". Emotional engineers help to let infants develop certain emotions in specific situations. This observation might help to understand stability in terms of conditioning. It can be the case that values in our society are conditioned as well. Our moral routines and the values of our society might condition us as much as the factories in the novel do to the babies they breed. In that sense we can use our moral shadow as metaphor for the conditioned value of stability in Brave New World.

Summarizing, stability is an intrinsic value of which its worth can be compared with our intrinsic value of life. It seems plausible to give up other values that we now think are important when stability becomes as important as it is in the novel, especially when we imagine situations in which we would do the same, like in times of war or economic collapse. What also helps us to understand stability as the sole value is that it is conditioned in such a way that they cannot think beyond it.²⁰

Happiness

Universal happiness is also highly valued by the Brave New Worlders and important for stability. It keeps the 'wheel' steadily turning while truth and beauty cannot do that. The whole basic structure of their society is arranged in such a way that well being is maintained. In practice this means that unhappiness is decreased, people are safe, never ill, and not afraid of dead, ignorant of passion, ignorant of old age and not plagued by strong feelings towards family and people they love. When something goes wrong, they use their drug called soma. This is one way to increase happiness. Another way to increase happiness starts from the presupposition that people are most happy when they act according to their nature. People who are handcrafters are most happy when they work, while intellectuals are most happy when they use their brain. Every person has a specific predestined place and task in society and has been conditioned to fulfill this task and is supposed to be happy. A third way to increase happiness is by sexual contact, highly encouraged by the government. The value of happiness is not essentially different from the value of happiness in our society, except for one main difference. In our liberal society we have the freedom to feel how we want to feel, we are allowed to experience sadness and pain if we want to. In Brave New World by contrast, people ought to be happy, it has become a duty. One the characters in the novel have to claim the right to be unhappy; he rather is unhappy than being happy, in the false lying conception that Brave New World has.

²⁰ In a sense it has become their moral shadow.

Because in our society decisions are often justified since they increase personal or overall happiness, it is not that hard to imagine a situation in which almost all reasoning is done to increase happiness. We can create our own metaphors and all we need is a set of correspondence regarding happiness in Brave New World with our conception of happiness. This set of correspondence can be inferred from the two main characteristics of the conception of happiness in Brave New World; happiness is both hedonistic and conditioned.

Happiness is hedonistic in the sense that it is one of the most important pursuits of the Brave New Worlders. Having free and unlimited sex and using drugs are justified because they maximize pleasure and minimize pain. Soma is a frequently used drug, distributed by the government that makes people feel happy. The Brave New Worlders also frequently have orgies called orgy-porgy in which dozens of people participate and pass the 'loving cup', a cup of strawberry ice spiked with soma. A way to stimulate sexual attractiveness is by using sexual hormone chewing gum. The characteristic of the Brave New World conception of happiness let the readers experience it in terms of the hedonistic conception of happiness. In our society we have often been confronted with the idea that happiness is the sole important value. We are not unfamiliar with people who see sex, drug, risk, freedom etc. as leading to happiness. In that sense we can experience the value of happiness in this morality in terms of experience with people in our society who hold similar ideas. We can experience the Brave New Worlders in this respect in terms of the hippies in the 1960's.²¹ Their conception of happiness was for example, as with the Brave new Worlders, a reaction against war and the limited morale of the older generation.

Another characteristic of the Brave New World conception of happiness is that it is conditioned. People are conditioned in such a way that it is hard to become unhappy. At the basis of this idea is the presupposition that having an interest that cannot be satisfied makes people unhappy. Conditioning removes most of these interests. People fulfill the role in society that is preconditioned and have their interests satisfied. In that sense happiness has equal worth as stability, both are conditioned. The Brave New Worlders are also conditioned by simply letting them hear mottos like "everybody's happy now", every night from an age of five, a hundred and fifty times for twelve years. The question is how this helps readers to imagine this conception of happiness. In what sense can conditioned happiness be experienced in terms of some other more familiar experience?

Many events in our society like for example technological developments make some values become more important and vice versa. Instrumental values are important as long as they serve some goal, while intrinsic values are goals in themselves and remain therefore important. It is possible that some values have been important over a longer period of time in our society, religion, family or culture. They become stable, broadly shared and embedded in society. Since we are repeatedly confronted with the importance of some values, we become more or less used to their importance.²² As a result it becomes hard to understand some values like fairness, equality, honesty and openness not being important anymore. In a sense we are conditioned as well, not by active conditioning as in the novel, but

²¹ It was evidently not Huxley's intention to use hippies as metaphor.

²² Presupposed that (some) values are not innate.

rather by repeatedly confrontation. In that sense we can for example use autonomy as metaphor for happiness; in the same sense as we are conditioned to value autonomy, the Brave New Worlders are conditioned to value happiness.

In summary, the Brave New World conception of happiness can both be experienced in terms of existing conceptions of hedonism, and in terms of other values of which we can hardly think them not to be important anymore. Important to remark is the idea that using these metaphors can be dangerous, in the sense that it is easy to also include other properties from the source domain into the target domain. It is hard to separate the value of autonomy from the idea that it is conditioned. As a result our thinking might become contaminated. The way the Brave New Worlders reason with regard to their important value suggests a specific underlying moral principle. It seems they use a specific conception of morality.

A different conception of morality

The object, point or goal of morality can be understood in terms of functions. G. J. Warnock (Beauchamp, 2001, pp. 12-15) holds that morality prevents things from going badly in human relationships and argues why moral problems come to being. Human needs, wants, and interests are often naturally satisfied by the human environment. Human needs like primary goods are often not scarce and available for everybody. Problems arise however when this is not the case; people then have the tendency to be more concerned about the satisfaction of their own interests or wants. Reason for this is a limited rationality and limited sympathy.

For the Brave New Worlders this seems not to be the case. They lack many interests because they are not biased towards family or culture because they do not have a family and are not part of a culture. The Brave New Worlders share the few interests that they have with other people, because they are conditioned as the others. The needs and wants of the Brave New Worlders are also cared for. The cooperation is institutionalized in such a way that the needs and wants that people still have are widely available. There is no poverty, food and drugs are distributed and there is no unemployment. As long as this situation remains stable, moral conflicts are unlikely to happen. In Brave New World there is for example no need for heroism which is considered a sign of political inefficiency. The occasion for being heroic can only arise in situations of instability. It seems this stable situation does not require someone to make moral decisions.

However in order to keep the situation stable, decisions must be made. These decisions must not be the result of a moral debate. Having a moral debate suggests having different viewpoints; this can be factor of instability. A stable society cannot have a too complicated morality but rather a set of clear unambiguous moral principles. This avoids that morality becomes ethics and therefore philosophical. In keeping the situation stable, it is not just important that the decisions do not lead to a decrease of stability but also that decisions do not lead to a meta ethical debate. What counts for the Brave New Worlders are the common objective goods stability and happiness. In order to achieve these goods, a eugenics program is started, babies are conditioned to fulfill a specific task in society, people use drugs to suppress negative feelings etc. Human reproduction is technologically managed to maximize efficiency and profit. The whole system works with supply and demand,

where new human beings are produced according to figures of what every caste needs.

Having subjective conceptions of the good as an individual is discouraged or even prohibited. It is discouraged that people are alone and reading philosophy or literature is prohibited. Also art and science are given up because they are incompatible with happiness. People might lose their faith in the maintenance of well-being and happiness as the 'sovereign good' and might believe in some other goal outside the human sphere like the intensification and refining of consciousness and enlargement of knowledge as the novel describes it. It might lead to deconditioning.²³ Conditioning eliminates as much subjectivity as possible, rules do the rest. The actions of the Brave New Worlders are governed by rules that will probably lead to more stability and happiness. All the rules are defined with the possible outcome, stability and happiness, in mind. It can be concluded that a non-plural society like that of Brave New World not just can have a single moral principles, it must have one. This morality can best be described as a hedonistic rule utilitarian morality.

The question is to what extent readers of this novel can experience this way of moral reasoning. As shown in the previous section, we need to experience this kind of morality in terms of another. The Brave New World morality can partly be experienced by experiencing stability and happiness as the sole values of society. How this can be done will be shown later in this section. For the other part, it can be experienced in terms of similar situations in which stability becomes more important, or in terms of situations in which we apply consequentialistic principles.

The only explicit reference that triggers us to experience the situation in the novel is the occasion of the change to a stable society, namely war and economic collapse. Stabilization has often highest priority in situations like war, natural disasters and economic collapse. Different rules and principles like martial law and state of emergency are meant to regain a stable situation. When things become more stable, the old situation is slowly recovered. This is in a way what happens in Brave New World, except that the situation is permanent. Literature, history and film have made most of us familiar with these situations. The familiarity with the situation of most readers makes it not hard to imagine a morality in which not the individual, freedom and human integrity are important values but rather the collective and stability.

It seems quite obvious that if stability is the most important value it is best to have one single moral principle. It is not hard to understand that the best way to achieve stability is by applying rules that directly increase stability. If other values become less important, it is not much of a problem that they become affected when applying a consequentialistic rule. In that sense only the outcome counts. The understanding and experiencing of the moral principles in the Brave New World morality depends on the understanding and experiencing of the values that are prominent in this morality namely stability and happiness. In the remainder of this section I will elaborate on these values.

²³ Freethinkers who do not fit in this morality because they hold different values are exiled from the World State to islands where they can live their own life.

Summary and reflection

In the former sections I have shown how the novel's morality can be experienced. The novel's themes are all very topical for the 1920's. Values like stability, happiness and individuality are very important. Huxley shows how society can change in such a way that one of the values, individuality is lost. So in order to pursue values like stability and happiness, the Brave New Worlders give up many things that are highly valued in the 1920's society. All decisions are made to maximize overall happiness, emphasis is on the outcome of actions not on the action itself. Because their world is homogenous and stability's sake, the Brave New Worlders can use one single principles of reasoning. This principle looks most like rule utilitarianism.

Huxley mostly explains how this morality looks like by means of the conversations in the final chapters. The conversations show as Plato did in his works, different viewpoints and allow the readers to become intimate with the characters, the ideas regarding values and in this case also the story. The conversations reveal the differences between our conceptions of stability and happiness and that of the Brave New Worlders.

Since the conceptions of values of the Brave New Worlders are different from ours, they are more abstract. In order to understand and conceptualize the situation in the novel, we use the similarities to experience it in terms of another situation. In other words: we want to understand the situation and try to reconstruct it; we use the similarities to create metaphors that allow us to experience the novel's morality in terms of other experiences. How these situations look like depends on experience and varies from readers to readers.

Stability can for example be experienced in terms of values like life that we consider to be intrinsic in our society. This makes it easier to understand some of the choices the Brave New Worlders make and it becomes clearer why some other values are given up. We do the same when we make choices that might affect the value of life, we give up other things that are valuable. Stability might in our society in some cases become almost as valuable as in the novel. In war situations we have sacrificed lives in the name of stability. With regard to happiness, the same thing happens. We are familiar with situations in which people see happiness as the highest moral value. In fact most of the readers are familiar with intrinsic values, conditioned values and the essence of the situations as sketched in the novel. In that sense morality in the novel is not that far fetched.

There are a few things important to notice. The first is that every reader will have different association with elements in the novel and will have different experience. Different readers will form different metaphors. As a result a morality might become differently conceived by the readers; a problem if the author wants to communicate a specific morality. In our case the main issue is to raise the awareness that technology and morality co-evolve. For the sake of awareness, it does not matter for us how this done by the readers; it does not matter what association readers have and how they form metaphors.

So far I have shown the use of metaphors in two very different novels. In the fifth chapter I will give a more detailed summary and reflection on both novels after which I will articulate a heuristic of moral imagination.

Chapter 5

A heuristic of moral imagination: reflections and evaluation

In the first and second chapter I have shown that it is important but also hard for readers to imagine a different morality. Narratives about a future morality can stimulate moral imagination only to some extent, depending on who the readers are and how the narratives are written.

Johnson shows that a process of imagination is basically a process in which metaphors are formed by the readers. In forming metaphors, new experiences are deduced from existing experiences, allowing readers to experience new situations. According to Booth, this process can be triggered by making narratives thought provoking. But because every reader has a different frame of reference, we can never tell which metaphors are formed. The bucket example from the second chapter shows that imagination is limited because the experience used in this process is limited. Only some experience is used because of personal bias or because things become forgotten. In order to stimulate the readers' imagination we should do more than make narratives 'just' thought provoking. Scenario writers can, by means of metaphors in narratives, trigger readers to use experience that they might not have used when forming metaphors by themselves. By using metaphors in narratives, scenario writers can thus more or less control the readers' imagination. Metaphors do however not necessarily to be effective as Booth showed. In order to be able to optimize narratives about the co-evolution of technology and morality we need guidelines for making metaphors more effective. These guidelines can partly be inferred from Booth's criteria and partly from insights from two case studies.

The main goal of this chapter is to articulate a heuristic of moral imagination in which the most important recommendation is to use metaphors. My analysis of two novels showed how narratives and metaphors function in practice and allows for reflection on Johnson's and Booth's theories. This provides the basis for the other guidelines showing how to make metaphors more effective. The effectiveness of metaphors depends on four aspects: if they let readers experience the right kind of moral change, if they are thought provoking, the kind of metaphors used and if they fulfill Booth's criteria.

The first section of this chapter deals with the differences between the two novels. The focus will be on two of the three issues defined in the introduction of the second chapter: the kinds of moral change and the experiencing of moral change. I will argue that the way morality is experienced by the reader makes a great difference in the mental energy that is triggered. The second section shows how metaphors are differently used in both novels. In the third section I reflect the insights from the first two sections on Booth's criteria. This shows how to optimize imagination and allow me to articulate a heuristic of moral imagination in fourth and final section.

Novel versus novel

In the second chapter I have argued that the goal of using metaphors in techno-ethical scenarios is to let readers experience different moral values, moral norms or moral principles that are either a cause or effect of technological developments. This section deals with the differences between the two novels regarding two of the three issues defined in the introduction of the second chapter: the kinds of moral change and the experiencing of moral change.

Both novels describe different aspects of moral change. They have in common that societal developments, like war, trigger developments in both morality and technology. In Dick's novel it is predominantly technology that changes morality. A colonizing program generates more attention to mental health and the technological possibility of creating fake animals leads to an increased importance of authenticity. Empathy becomes highly valued, mostly because of the technological ability to create fake humans. In *Brave New World* the situation is reverse. Morality is not so much changed as a result of technological developments but as a result of war and economic collapse. This moral change in its turn makes certain technological developments possible that would be very controversial in our society. Summarizing, the novels are good examples of narratives about the co-evolution of technology and morality. This is the kind of moral change we are looking for.

The novels differ in the way they are thought provoking. Dick's novel is thought provoking because of its ambiguity. Its plot (of which I did not reveal too much) is more complicated than that of *Brave New World*. It requires a lot of thinking in order to understand for example the title, to determine whether or not the main character is an android himself, or to establish the meaning of Mercerism. The plot of *Brave New World* on the other hand is not very complicated. Many issues are duly explained in the dialogues between characters. But although unambiguous and simple, *Brave New World* is thought provoking in a different way. The society has something appealing and something horrifying at the same time and seems in some respects not very different from our society.²⁴ We too for

²⁴ "Suppose there were an experience machine that would give you any experience you desired. Superduper neurophysiologists could stimulate your brain so that you would think and feel you were writing a great novel, or making a friend, or reading an interesting book. All the time you would be floating in a tank, with electrodes attached to your brain. Should you plug into this machine for life, preprogramming your life experiences? [...] Of course, while in the tank you won't know that you're there; you'll think that it's all actually

example have social classes, people are in a sense also conditioned by society and perform the jobs that suit them most.²⁵ The Brave New World society seems to trigger a conflict between different personal interests that is thought provoking. This especially holds for people in the western world in the 1920's. They for example were confronted by communism and at the same time valued stability. The novels show us two alternative ways in which narratives can provoke thought. A narrative can trigger an emotional response as in Brave New World, and can trigger a rational response as in Dick's novel.

Emotional responses like horror or happiness can be triggered by presenting to the reader a carnival mirror, an absurd or disturbing view of a possible reality. Rational responses are triggered when something hard to understand is presented to the readers. In both cases we can say that the experience probably remains more vividly in the readers' memory because of its effect. Dick and Huxley both have a message for the reader and both use different literary techniques to make their novel thought provoking. And it seems they both succeeded since both novels are now considered classics.

The case studies so far showed that there are two ways in which narratives as a whole can be thought provoking – thus making the readers bond with the novel. This bonding is important and might also stimulate the readers' imagination, but only in a limited way. I have already argued that we need a more accurate and precise heuristic of moral imagination and that the focus should be on metaphors. The insights from the case studies so far are not exclusive to entire narratives. They can also be used for metaphors. Metaphors can be so ambiguous that they trigger a rational response and similarly they can also trigger an emotional response.

We now have learned that narratives and metaphors can trigger two kinds of responses that help reader to bond with the novel, provoke their thought and make them create mental images that help to experience a different morality. The case studies focused on the metaphors used. The question now is what these metaphors can tell us about the preliminary heuristic of moral imagination.

Kinds of metaphors

The case study confirms the different kinds of metaphors that are distinguished in the second chapter. Understanding the idea of the co-evolution of technology and morality is a process of moral deliberation in which moral imagination plays a crucial role. Metaphors enter moral deliberation mainly by providing different ways of conceptualizing situations in which the co-evolution of technology and morality is shown and in constructing analogies and new cases. In the third and fourth chapter I have analyzed two narratives in terms of the definition of metaphors, namely that metaphors are explicit or implicit textual elements that make possible an understanding and experiencing of one kind of thing or experience in terms of another.

The two narratives use both these kinds of metaphors. It seems that when no explicit metaphors are present, and the situation requires understanding, that the

happening [...] Would you plug in?." Nozick 1974, pp. 42-43

²⁵ Our moral shadow is in a way a form of conditioning; the heuristic is meant to decondition readers.

readers try to experience the more abstract situation in terms of other more concrete experiences; the readers create their own metaphors.

The main difference in metaphor use between the two novels is that Dick uses more explicit metaphors and more explicit correspondences than Huxley while the latter's novel explains more of the novel's morality in the many dialogues. The fact that there are not many explicit metaphors or correspondences in *Brave New World* does not mean that metaphors cannot be created. Many of the concepts can be experienced in terms of other experiences, but since there are no concrete correspondences with the real world, the used metaphors vary more between readers than they do in Dick's novel. This is no problem when the story is backed up with an explanation as in *Brave New World* or when no concrete idea must be understood. When the story on the other hand communicates a specific idea, no ambiguity can be used. This requires more concrete metaphors or a larger set of correspondences.

Summarizing, we can distinguish three kinds of metaphors. The first are the explicit conceptual metaphors, obviously formed by the author. Examples are thing, victim/hunter, wheel and gyroscope. The second are implicit metaphors with an explicit set of correspondences of which the set of correspondence is formed by the author and the metaphor itself by the reader. Although the readers form the metaphors by using explicit correspondences appealing to specific experience and resulting in meanings more or less intended by the author. Examples are the Jews, the telephone, drugs, the race horse, and Christian religion, hedonism, other intrinsic values and economic collapse. The third are metaphors that are formed by the reader and on which the author had no influence.

Johnson argued that every act of imagination includes forming metaphors. All readers will use metaphors, regardless if they are present in the text and regardless their form. The whole idea behind the heuristic of moral imagination is getting a grip on the readers' imagination.²⁶ One way of doing that is getting grip on the metaphors used in imagination by providing predetermined metaphors.

A heuristic of moral imagination should recommend scenario writers to use either explicit or implicit metaphors depending on the metaphor's task at hand as I will show in the next section.

Metaphors and Booth's criteria

The goal of a scenario in this context is making readers experience a different morality. In order to distance the audience from their moral routines it is important to stimulate their moral imagination and thus enable them to form new mental images. Through metaphors new experiences are built in terms of older familiar experiences. The use of metaphors in narratives stimulates readers to use their imagination. One way of doing that is getting grip on the metaphors used in imagination by providing predetermined metaphors.

The case study revealed that there are kinds of activity in narratives as a whole and in metaphors more specifically. They can trigger emotional or rational

²⁶ It can be the story itself that is more triggering than others. But leaving it there brings us back where we started, namely with the problem that not all narratives are as stimulating as much as the author wants it to be.

responses by presenting the reader with absurdities, conflicts of interests, or ambiguities. The case study has also confirmed the idea that both implicit and explicit metaphors can be used. Reconstructing implicit metaphors requires most mental energy. It is reasonable to suggest that in general, hard to understand implicit metaphors will trigger rational responses as well as hard to understand and novel explicit metaphors. The more simple explicit metaphors are more likely to trigger emotional responses or no response at all.

With these responses I mean primary responses. It might be the case that initially a rational response is triggered that is followed by an emotional response when the metaphor is reconstructed. In order to let readers jump over their moral shadows we need more than emotional responses like horror or delight. These responses are good for the bonding with the story and trigger readers to think but they do not trigger imagination in the same way as hard to understand metaphors do.

Whether or not explicit or implicit metaphors are most appropriate depends on the task at hand. The case studies showed the ways in which narratives can be thought provoking but also how metaphors work in practice. These insights allow me to evaluate Booth's criteria. In the remainder of this section I will evaluate each criterion by reflection on several metaphors used in the novels.

Booth's first criterion is to make metaphors active in the sense that they make things more animate. For many readers a different morality will remain abstract and inanimate. Readers who want to really experience such a different morality will therefore try to find similarities with more familiar situations that allow them to experience this novel situation in terms of those more familiar situations; they make up metaphors. The scenario writer can steer this making up of metaphors by providing predetermined explicit metaphors, or implicit hard to understand metaphors that the reader needs to reconstruct first. In theory, a criterion regarding the activeness of metaphors seems useful. Let's see what happens in practice when we apply this criterion to some of the metaphors used by Dick. He wants to show why androids cannot be empathic with humans, and why humans must be empathic with each other. He could have explained this situation without using metaphors. This is much harder than when using explicit figurative language because it requires precise and secure writing. He could have described that people who have something in common often form groups. People within these groups often feel solidarity with each other and want to keep the group intact. They might also defend each other. When one suffers, the rest also suffers. Instead, Dick could have used an implicit metaphor here, rather than the explicit herd animals metaphor. Implicit metaphors can be active because they have to be formed first. Explicit metaphors and metaphors formed out of a set of correspondences, can be active because they have to be understood. The will to understand the metaphor engages mental energy that is then used to find similarities between humans and herd animals. The criterion does not say anything about how to determine the amount of activeness. This is a hard thing to do since some metaphors are active for some persons while not for others. The criterion does however serve several other goals: it makes an author aware of what metaphors do and stimulates to find alternatives for metaphors that might not be active enough.

Whether or not a metaphor is concise and economical can be determined more objectively than a metaphor being active or not. Metaphors say more with less, and according to Booth this is one of the reasons why people use them. Booth sees metaphors as an economic device that needs to be balanced between being too economical, giving false clarity, and plain text requiring two paragraphs of explanation. According to Booth, true economy is realized when an expression assures full communication without distortion. But the role of metaphors in the heuristic of moral imagination is not being an economical device that says more with less. It rather aims at letting readers experience (an aspect of) a different morality in terms of something familiar. It is not important that some false clarity is given or that the metaphor is conceived differently than intended by the author. What is important is that the metaphor does what it is supposed to do: enter the readers' moral deliberation. It doesn't matter if the value of authenticity of animals is experienced in terms of breeding bulls or race horses, or if empathy is experienced in terms of Catholicism or Protestantism. It is on the other hand important that metaphors not too economical resulting in the experiencing of authenticity of animals in terms of something else. In that sense it is important to use this criterion in the heuristic of moral imagination.

The criterion that metaphors should be appropriate to the task at hand is more about the form of the metaphor than about its content. It mainly states that the precision, activeness or triviality should be adjusted to the task at hand. A metaphor that is considered trivial in the sense that it is common or ordinary, readers will less likely notice it. If the point is to improve the impressiveness, a metaphor should be made less trivial and vice versa. The main goal of metaphors in this context is letting readers experience a different morality, or aspects of it. When the task at hand is making something abstract and complex clear, then it requires more of a metaphor. The criterion makes an author aware of this and is therefore important for the heuristic of moral imagination. The gyroscope in *Brave New World* is a good example of an appropriate metaphor. It is very simple and does not have to explain a complex and abstract matter. Society is compared with a flying machine that needs stability. This stability is created by the conditioning of people that brings, as with a gyroscope, this stability. A more complex metaphor would not bring more clarity. *Mercerism* in Dick's novel by contrast is much more complex. In order to understand this aspect of morality, more mental energy is needed. Since a simple metaphor would be inappropriate, a more sophisticated metaphor is required. The metaphor used by Dick is also appropriate in this sense; its reconstruction requires mental energy, that lets it enter the readers' imagination. In order to understand the morality, the narrative must be read with the metaphor in mind. This requires the metaphor to be more active than for example the race horse.

A fourth criterion is that good metaphors must be accommodated to the audience at hand. A certain target group, like in this context policy makers and citizens, can be expected to have a certain amount of experience. Especially when using implicit metaphors, it is important that an author accommodates the set of correspondences to the audience at hand. All audience is to some extent familiar with things, breeding bulls and race horses. But in order to understand the latter, more experience is required; not everyone knows how race horses are valued. The gyroscope is even more problematic: it requires some technical background to

understand this metaphor. An audience that appreciates science fiction can presumably not be considered technophobic and is probably educated. They will be able to understand the correspondences of most metaphors. The audience of narratives about the co-evolution of technology and morality will in this respect probably be similar to Dick's and Huxley's audience. In this context it is better to change the criterion to make it more specific in such way that it appeals to the experience of the audience at hand, policy makers and citizens, rather than just to an audience in general.²⁷

For Booth the whole point of metaphors is letting people invent a new perspective, and let people place a new story over an old one. Metaphors that are novel, original and striking are better suited for this job than others. In this context a new perspective can be a moral perspective. This perspective must enter the imagination in such way that it can partly or wholly replace the prevailing morality, making it possible to morally deliberate like someone who is part of that morality. In order to let a different morality enter the imagination, it must be invited by the readers; the readers must want to let it enter his moral deliberation. This is more likely to happen when a metaphor is in accordance with this criterion. This criterion triggers authors to find better alternatives that are more likely to enter moral imagination, and is in this sense useful for the heuristic of moral imagination. Of the metaphors used in both novels, many were in that sense original and striking. This can have to do with the fact that the metaphors help letting readers experience a different morality that is novel in itself; many novel ideas require novel metaphors. The concepts authenticity, empathy, happiness and stability are however not so different in the novel that their meaning has totally changed. Stability is for example still the condition of being stable. This means that they do not automatically require novel metaphors, as with novel ideas and concepts. The need for stability could also have been experienced with other metaphors like for example with a ship's leeboard. A gyroscope would in this case be more novel, especially considering the time in which *Brave New World* is written. The criterion is important since also new and different moralities are based on familiar concepts that can be experienced in a different conception using metaphors that might be not very novel, original and striking.

With regard to the idea that metaphors must be used in clusters we can say that it can be important for both metaphors and sets of correspondence in several ways. The first is that a metaphor might not be strong enough. The value of authenticity in Dick's novel is for example shown with different metaphors like thing and race horse. Together, these metaphors reinforce the value of authenticity but also reduce the chance that readers conceive the conception of this value differently. Regarding sets of correspondence the same mechanism can be witnessed in the Christianity metaphor. The many references make it almost impossible for readers to conceive this metaphor otherwise. It should be noted that it is important to keep the appropriateness of the metaphors in mind. It is unnecessary to use too large cluster of metaphors when this is not necessary. Some metaphors are so strong that they do not need reinforcement like the gyroscope

²⁷ Citizens are a large group of people with diverse experience. I think it is important to include a guideline regarding a specific target group. I recommend Swierstra and Stemerding to redefine the target group 'citizens'.

metaphor. It also might not be a problem to have ambiguous metaphors: this might trigger the readers to reconstruct new images. For these reasons it might be better to articulate a guideline in such way that it encourages authors to use clusters of metaphor (rather than compelling them).

A heuristic of moral imagination

This heuristic of moral imagination is a method or a strategy providing rules of thumb that can help scenario writers to optimize narratives about the co-evolution of technology and morality for stimulating the readers' imagination.

About stimulating the readers' moral imagination:

1. Imagination is the ability to create new experiences in the mind out of existing experiences; it is a process of creating metaphors.
2. Imagination can be stimulated by making narratives thought provoking; each reader will use different experiences and create different metaphors.
3. Imagination can be stimulated by providing new and different experiences, by means of metaphors.
4. Use metaphors if you want readers to use more specific experience that they otherwise might not have used.

If you use metaphors and want to make them more effective:

5. Let readers experience the right kind of moral change:
 - a. The goal is to let readers experience different moralities that are either the cause or the effect of technological developments.
 - b. Let readers experience different values, norms and principles in terms of familiar experience. The value of one thing can for example be used to experience the value of something else like in the 'time is money' metaphor.
6. Make metaphors more thought provoking, let them initially force an emotional or rational response:
 - a. If you want to use metaphors in order to invite an emotional response by the readers, use simple metaphors that correspond with experience that the readers regard horrifying, absurd, funny etc.
 - b. If you want to use metaphors in order to invite a rational response, use hard to understand or ambiguous metaphors.
7. Use the right kind of metaphors. If you want to make metaphors less hard to understand or less ambiguous:
 - a. Use metaphors in clusters rather than single metaphors. If you for example use a ship as a metaphor for something, you can also use parts of a ship as metaphor to reinforce the effect of each metaphor.

- b. Use explicit rather than implicit metaphors. Implicit metaphors need to be reconstructed, this requires more understanding and mental energy.
 - c. If you use implicit metaphors, use more correspondences with the source domains to reduce ambiguity. If you want to let readers experience a value in terms of a religion, use more links when it might be conceived differently.
8. In making metaphors thought provoking or in choosing the right kind of metaphors, use these criteria for good metaphors:
- a. Use metaphors that are active and make things more animate. Find alternatives in case a metaphor is not active enough.
 - b. Use metaphors in a concise and economical way. Keep balance between being too economical and being too elaborate.
 - c. Use metaphors that are appropriate to the task at hand, adjusted to the main point of the text. In some cases the point is not so complex that a hard to understand metaphor is needed.
 - d. Use metaphors that are accommodated to policy makers and citizens. They can be expected to have a certain frame of reference and experience.
 - e. Use metaphors that are novel, original, striking. Find alternatives when necessary.

My claim is that the heuristic of moral imagination is valuable for scenario authors because it can make them aware of how readers imagine the scenario's different morality and because it offers them guidelines for optimizing the readers' imagination. This imagination is important because it helps readers to think outside their moral routines. This is a first step towards enabling a reflexive ethics of technology. The heuristic allows scenario writers to use metaphors as effectively as possible, thus ensuring optimal result from the use of metaphors. This justifies the use of the heuristic of moral imagination.

There are some possible objections against the use or usefulness of the heuristic of moral imagination. One objection is against the presupposition that our moral shadow cannot be jumped.²⁸ It might be that people can easily jump their moral shadows and that they therefore reflect on a different morality. In such a case we do not need a heuristic of moral imagination. The idea behind this objection is that morality changes - slowly or more revolutionary – and that therefore our moral shadow changes. These changes can be caused by developments in the community or society but also by someone moving to another place. The storyline of some narratives can be experienced as some different kind of reality of which the readers become part.²⁹ In that sense it is indeed possible that a different morality becomes part of some readers' moral routines. This does however not solve the problem. The problem is still that only one morality is part of our moral thought; the moral

²⁸ This is actually an objection against a point of Swierstra and Stemerding and a presupposition of me. Because it affects the justification of the existence of the heuristic of moral imagination I would like to mention it.

²⁹ This does however require an intense experience like with a long storyline, a role playing game or a movie. The storyline maybe needs to be longer than most of the scenarios about the co-evolution of technology and morality will be.

shadow is still there. What we need is to morally reflect on a different morality. This requires readers to use their own morality in reflection and to imagine a different morality to reflect upon.

Another objection can be that the focus on metaphors alone might limit the scope of my heuristic of moral imagination. There are also other aspects of narratives that trigger the imagination, like for example character development. Readers can become empathic with the characters in the novel. Readers can as a result better imagine the values of that person. There are two arguments against this objection. The first is that empathy (as other acts of imagination) is metaphorically by itself. The other argument is that the heuristic of moral imagination, because it stimulates people to experience being someone else, can stimulate empathy as well.

Related is the possible objection that the focus on future scenarios limits the scope of the heuristic of moral imagination. Other narratives describing different cultures and different moralities might also describe different moralities. This might indeed help readers to step outside of their moral shadow. These kinds of narratives let readers experience different moral values, norms and principles and make people aware of their own moral routines. What these narratives do not do, however, is to show the relation between technology and morality.³⁰ They do not show a morality as something that might go to change as a result of technological developments. It is therefore important to use future scenarios.

There are also possible objections with regard to the use of metaphors. As Booth also argued, metaphors are powerful and can let some idea win over another idea. Authors can by means of metaphors deliberately or by accident bias or mislead the readers. Implicit metaphors can be dangerous in the sense that it is easy to include other properties from the source domain into the target domain. Metaphors can give false clarity or be fallacious. This is, as argued before, especially a problem when it concerns a philosophical text of which a proper communication of ideas is very important. For a narrative it is less important that some ideas are conceived differently from intended. It is more important that readers can imagine a different morality.

The heuristic of moral imagination does not help readers to step out of their moral shadow. It also does not help them to imagine a completely different morality with unthought-of norms. The heuristic of moral imagination appeals to the readers' experience. It thus needs some link with our existing morality and it can therefore not be totally alien. It is nonetheless a powerful tool that helps to optimize narratives for stimulating the readers' imagination.

These narratives can be written by engineers and scientists. It is not only important for engineers to understand the moral implications of their work (Mehalik & Gorman, 2006) but also for scientists.

³⁰ There are more applications of the heuristic method of moral imagination. For example convincing scientists about the need to think about the moral implications of their developments.

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