Neuroscience and free will

Reconsidering the rejection of free will from the vantage point of an anti-essentialist self

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Abstract

The aim of this thesis is to investigate how the interpretations of several neuroscientific experiments by Libet, Wegner and Nisbett and Wilson change when we presuppose an anti-essentialist self.

The debate around free will that is informed by neuroscience is based upon the question whether we are in control of our behaviour. Neuroscientists as Wegner, Lamme and Swaab claim that our brain determines our behaviour. Their claim is based upon experimental data that shows that people ascribe false reasons to their behaviour. Other experiments show that not consciousness, but unconscious processes initiate our behaviour. Therefore the idea of free will is rejected. Among others, Wegner presupposes that the self coincides with consciousness. The self that coincides with consciousness is not tenable. It presupposes a conscious-unconscious dualism and subsequently an inside-outside demarcation. When we acknowledge a difference between short and long-term intentions philosophical and scientific insights show that consciousness can influence unconscious processes and subsequently behaviour.

The conscious-unconscious dualism implicitly acknowledges an idea of essential properties. To combat that view of the self I propose an anti-essentialist self that is based upon Helmuth Plessner's philosophical anthropology. The anti-essentialist self entails that the self and free will are not pre-given and have to develop in the interactions a self has with its environment. This will lead to an idea that someone is free when his behaviour corresponds with his long-term intentions in terms of habits, goals and ideals.

The reinterpretation of the neuroscientific experiments show that those experiments do not reject free will. Instead those experiments help us in finding the limits of how our consciousness plays a role in our behaviour. Subsequently such experiments will learn us more about how unconsciousness and consciousness interact.

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Chapter I

Introduction

In the past centuries there have been numerous discussions about whether free will exists and what free will is. The discussion started from a theological point of view centering around the question whether God determines our actions or whether he gave us the possibility to act freely (O'Connor 2013). This gave rise to philosophical debates about the existence of free will.

Throughout the years three major philsophical positions arose in this debate: determinism, indeterminism and compatibilism (Oomen 2013). Spinoza, among others, was a ddeterminist. According to his deterministic philosophy, God and the laws of nature determined everything. This position became especially popular due its being in line with scientific findings about laws of nature and mechanistic worldview of his time. (van Ruler 2013). According to determinists everything is predetermined by God or by following the causality of the laws of nature and physics. Indeterminism, often referred to as libertarianism in the debate about free will, is the idea that nothing is determined: nothing is caused by deterministic events. This line of thought proposes the idea of randomness (Oomen 2013). Indeterminists propose a concept of freedom that says that an agent, or a person, ought to be able to choose over different possibilities for performing an action within a certain context. Determinists and indeterminists are incompatibilists; they believe that free will does not exist in the case of determism, or that determinism does not exist if free will exists, since they are logically inconsistent (Ibid.). In contrast, compatibilists argue that determinism and free will are compatible. For instance, Schopenhauer defined free will as "Man can do what he wills, but he cannot will what he wills"(Ibid.). This means that our will is subject to determinism, but that man is still free to practice that will. There are many varieties within all three schools. However, it is beyond the scope of this thesis to deal with those varieties. Rather, I will focus on a different contemporary denial of free will.

Since a few decades, a new player entered the debate on free will, and that player is the field of neuroscience. In that field, several neuroscientists have argued against the existence of free will, while supporting their arguments with experimental results. These arguments differ from the original debate. Instead of asking whether laws of physics determine our behaviour, the question now changes to whether our brain, and not our consciousness, determines our behaviour. The question can even be phrased slightly differently. The question is not about whether our brain determines us, but it is about whether we are in control of our behaviour (Slors 2012). Additionally, we should ask what that 'we', or, in other words, the self involves. The claims that have been made by neuroscientists and the experiments that they have performed, force us to reconsider what a human being and subsequently a self is. In line with other criticisms against the neuroscientific denial of free will, I want to consider here how the definition of the self plays a role in the interpretation of neuroscientific experiments.

In my view this is something that matters. In the past few years several books about neuroscience and free will have been written by Dick Swaab, Victor Lamme, and Ap Dijksterhuis. They are all prominent scientists with a considerable influence on public opinion and thereby our lawmakers and future laws as well. I think this leads to what J.D. Trout has called 'explanatory neurophilia', because by just focusing on the objectification of the human biology and even objectification of consciousness

and the self, we forget about the cultural and historical influences that shape us as humans beings (Procee 1991). This process of forgetting about how culture and history have shaped us will eventually lead to a bad explanation of free will and how we experience it. (cf. Trout 2008) Criticisms against the neuroscientific concept of the self entails that the self is limited to consciousness, is pre-given and independent (Aydin 2013B). I will take these criticisms in consideration to look differently at the self and consider a self as anti-essentialist. In other words, a self that emerges in a specific time and culture without an essence to start from. Therefore, the research question I will try to answer in this thesis is:

Do the neuroscientific experiments in the debate around free will no longer reject free will when we presuppose an anti-essentialist concept of the self before interpretation?

To answer this question I will divide this thesis into four chapters of which each has a specific purpose.

In the first chapter I want to reconstruct the neuroscientific argument against free will. In order to do this I will focus on several neuroscientific experiments that have been used in the argumentation by several neuroscientists against the existence of free will. I will discuss these experiments and additionally focus on the specific conceptions of the self and of freedom that they endorse. In this way, we gain an overview of the contemporary debate on free will and the specific argument studied in this thesis.

In the second chapter I will do four things. First, I will have a closer look at the assumptions neuroscientists make about the self and show how their notion of the self has inherited a dualistic concept of man. Second, I will look at how this dualistic concept informs the debate around three will. Third, I will look at how neuroscientific imaging-technologies sustain a dualistic notion of the self by looking at the underlying technological mediations from the vantage point of Don Ihde's technological hermeneutics. Fourth, I will explain why this modernist notion of the self and the notion that the self coincides with consciousness are not tenable. I will do so, by drawing on philosophical insights against the inner-outer demarcation and I will present scientific insights that suggest that the neuroscientific assumptions about the self are false. This opens the door to present an anti-essentialist notion of the self.

I will present this anti-essentialist notion in the third chapter. Since developing an anti-essentialist notion from scratch is beyond the scope of this thesis, I will turn to the German philosophical anthropologist Helmuth Plessner. Plessner's anthropology offers a useful toolbox to understand the human condition independent of historical and cultural influences. I will present Plessner's anthropology and focus on several key notions. The focus will be on how humans are constituted in terms of their dynamic relation with themselves and the world. Subsequently I will show how humans are subject to change due to their dynamic relation to themselves and the world. Based on this conception of man I will show how the self emerges and what that self entails. Subsequently, I will consider how freedom emerges from the emerging of a self and how that self and his or her freedom make it possible for someone to be in control of his or her own behaviour and how someone can identify with his or her own behaviour. At the end of the chapter I have new assumptions that survive the critiques presented in chapter two.

In the fourth chapter I will re-interpret the neuroscientific experiments that have been considered in the first chapter based on the new presuppositions I have proposed in the third chapter. I will show that the experiments cannot be used for making claims about the existence of free will, but that they can still be useful in finding limits and mechanisms of how humans are in control of their behaviour.

In the conclusion I will come back to all of the chapters and present future research possibilities.

Let's turn to the the neuroscientific experiments and claims, in order to know what the debate is about.

Chapter 1

Neurosciences of free will

The philosophical debate around free will used to be focused on determination. Several positions described the probability or improbability of free will and determinism. These positions are based upon whether natural laws determine our behaviour and whether humans are subject to Divine predestination. In addition, some other positions described how determinism and free will do not contradict each other and can co-exist.

Nowadays, the debate around free will has taken a rather different turn. In the neuroscientific paradigm, the question concerning free will has changed to whether something is my conscious choice. Thus neurosciences focus on a different type of determination. This involves that our brain and not our consciousness determines our behaviour.

This raises different questions. Instead of asking whether we indeed have to obey to the deterministic laws of physics we have to ask whether consciousness does indeed no longer plays a role in our behaviour. Thus the condition for free will in this debate is no longer whether our behaviour is determined by laws of physics, but whether consciousness has a part in our behaviour. Therefore a lack of being consciously in control of our behaviour is a threat for the existence of free will. Determinism is not completely excluded in the debate around free will, because our brain can still be subject to deterministic laws. However, the discussion around deterministic laws of physics is beyond the scope of this thesis. The goal of this chapter is to reconstruct the argument several neuroscientists make against the existence of free will and to uncover their presuppositions. Therefore, I will discuss several neuroscientific experiments that are often referred to in the debate around free will (Swaab 2010, Lamme 2010, Slors 2012, Aydin 2013B). Subsequently, I will have a closer look at the presuppositions behind these arguments and eventually I will move on to the conclusions about the rejection of free will. By addressing the experiments, their outcomes, and their associated claims, I will show how neuroscientific discoveries threaten the notion of free will, which Slors describes as a "toxic cocktail".

First let us have a closer look at the experiments.

1.1 The neuroscientific experiments that reject free will

In discussions about the freedom of the will there is often referred to several experiments that somehow imply that consciousness is an epiphenomenon of brain activity, or at least not the initiator of our actions. Below, I will discuss the experiments that have been cited the most.

1.1.1 Kornhuber and Deecke

In 1965, two German scientists Hans Helmut Kornhuber and Lder Deecke used an early form of Electro Encephalography (EEG) to measure brain activity. They taped electrodes to the subjects scalp, in order to detect brain activity. This brain activity was initiated by instructing subjects to make voluntary motor acts, such as the flexing of a finger (Kornhuber & Deecke 1965). Kornhuber and

Deecke concluded that they could measure how the brain prepares an action 1 to 1,5 second prior to the actual action. They called this activity 'Bereitschafst Potential' (readiness potential) (Ibid.). This was a remarkable discovery. Now it was possible to measure brain activity that was preparing a bodily movement. This led to new research possibilities. As we will see later, when discussing the experiment of Benjamin Libet, this led to research about the relation between brain activity, consciousness, and behaviour.

1.1.2 Libet

The possibility to measure brain activity before a voluntary motor act has influenced neuroscientist Benjamin Libet to conducti his most famous experiment. Based on the findings of Kornhube and Deecker, Libet proposed an experiment to find out whether the moment people became aware of their intention would be correlated in time with the readiness potential.

The eventual setup of Libet's experiment was the following: The experimenters made a distinction between three points in time. T1 is the brain activity of the urge, T2 is the awareness of that urge and T3 is the muscle contraction (the flexion of the finger) (Libet 1983). The subjects were instructed to relax and focus on a screen of a cathode ray oscilloscope (Ibid.). This oscilloscope was a clock-working mechanism that completed a revolution in 2,56 seconds (Ibid.). The subjects were instructed to remember the position of the clockwork at the earliest moment of becoming aware of their intention for flexing their index finger. Additionally the subjects were instructed to "let the urge to flex appear on its own, without any preplanning"(Ibid. p. 625). The subjects became aware of their intention 200 ms before the motor acts, and 300-800ms after the onset of the readiness potential (Ibid. p. 636). This meant that the readiness potential for the motor act was prior to when someone became aware of the intention.

Libet conducted other experiments to support his data. The experimental setup was similar to the one mentioned above. However, there was a difference. Instead of letting the subjects choose to flex their finger, they were asked to flex their finger and choose when to stop that action. This experiment did not record a difference between T1 and T2. This means that the readiness potential and the moment of awareness happened at the same time. The congruence in time between T1 and T2 does not exclude that consciousness could be the originator of our actions. This congruence led Libet to the claim that people do not have a free will but a free won't. Thus people are in control when stopping a motor act, but they do not control the start of that same motor act.

Similar experiments about readiness potentials have been recreated multiple times. Libet's protégé, Haggard, did a similar experiment. In his variant he used a fMRI-scan (functioning Magnetic Resonance Imaging scan) The subject had to choose which of his arms he wanted to use. Haggard showed that he could predict which arm the subject would use, before the subject claimed to be aware of it himself (Haggard & Eimer 1999).

These experiments show that our conscious intentions are not necessarily the initiators of our actions. In addition to the experiments that look at whether consciousness is the originator of behaviour there have been as well experiments conducted by, among others, Nisbett and Wilson that investigate the reasons we afterwards ascribe to our behaviour.

1.1.3 Nisbett and Wilson

Richard Nisbett and Timothy Wilson conducted experiments that involved non-conscious decision-making. One of those experiments involved a setup in a general store. In 1977 Nisbett and Wilson installed three displays with pairs of identical socks in the general store (Nisbett & Wilson 1977). During the experiment they noticed that costumers preferred the socks from the display on the far right. Apparently right-handed people often have the preference for objects on the right. When the researches asked the costumers why they have chosen those specific pair of socks the costumers often answered something as that the quality of the socks were superior to the socks on the other piles (Ibid.). This of course was not a good explanation for their behaviour, because the socks were identical.

Nisbett and Wilson discovered personal preferences people were not aware of. Further, these preferences influenced the eventual behaviour to take a pair of socks from a specific display. This led to the idea of subliminal influences on our behaviour. The ascribing of false reasons to our behaviour is often referred to as confabulation (Wegner 2002 p. 175-176).

1.1.4 Wegner

Based on the work of Nisbett and Wilson, Daniel Wegner performed additional experiments to discover more about the role of the unconscious brain on our behaviour. One of his most famous experiments is the I-Spy experiment. It was based on the concept of an Ouija board. An Ouija board involves that people have the illusion that a ghost or spirit is moving a glass over letters in order to communicate with the "the other side" (Wegner 2002). This, of course, is not the case. Several experiments have shown that people (unconsciously) make the glass move over letters on the board (Wegner 2002). However, the idea that people did not ascribe this movement to themselves, as if they were not in control, was an interesting point of departure. Wegner turned the phenomenon of the Ouija board around in his experiment. Instead of looking at how people did not identify with their movements, he looked in his I-spy experiment at how people identify with behaviour they did not perform.

The setup of the I-spy experiment was as follows: the subject was sitting behind a computer and got instructions to move the mouse and stop on the picture of his choice. While sitting behind the computer he wore a headphone that played music, but the headphone was used as well to let the subjects unconsciously hear certain words. In some cases the subject heard, , a word that corresponded with one of the pictures a few seconds before he had to stop his cursor. For instance, he heard the word 'locomotive' and a few moments later he actually stopped on the picture of a locomotive (Wegner & Wheatley 1999). Such a (subliminal) influence on our behaviour is often referred to as priming (Wegner 2002).

In a different variant of the experiment someone else was moving the mouse while the subject thought he had been moving the mouse. You can compare this with the sensation of playing a videogame in which you were not aware that you were not in control (Ibid.). To explain this notion of false identification, Wegner proposed three principles as sources for experiencing will (Wegner & Wheatley 1999). The first source is the principle of priority. This involves that a thought appears in consciousness (people consciously think of this thought) before an action happens (Ibid.). The second source involves the principle of consistency. This means that a certain thought has to be consistent with the action that follows. For example, if you intend to catch a ball, than the intention is only consistent when you actually catch a ball. In other words, there has to be a notion of causality. Event A necessarily causes event B (Ibid.). The third source of experiencing the will is the principle of exclusivity. This entails that there is no alternative origin of an action than a person's own conscious thoughts. More specifically, that people will feel uncomfortable by the proposal that something else than their own thoughts might have initiated the action (Ibid.).

What Wegner wants to show is that we often think that we are in control of our behaviour, while in reality we have nothing to do with the actual outcome. That is to say: we are not in control of our actions. We often make up reasons why we did something and we do so even for actions we did not perform. The false-testimony that follows is called confabulation (Wegner 2002). To put it simply, this means that our consciousness has no influence on our behaviour; instead, our unconsciousness does influence our behaviour. Wegner and others derived other claims from the presented experiments.

1.2 The claims and conclusions

The described experiments have been a major influence on debates about free will. On the one hand, Libet shows that conscious intentions are not necessarily the cause of our behaviour. On the other hand, Wegner and Nisbett & Wilson, show that we ascribe false reasons to our behaviour or falsely identify with certain behavioural outcomes. To understand how they have been a part of the debate,

we ought to have a closer look at the data, at the interpretations, and at other claims that have been made based on these experiments.

Libet draws the conclusion that consciousness does not necessarily have to be the origin of our behaviour (Libet 1983). Philosopher Alfred Mele (2006) proposed a different interpretation of Libet's experiment. He focused on the rhetoric that is used and in particular the phrase let the urge to flex appear on its own, without any preplanning(Libet 1983 p. 625). Mele claims that the unconscious origin of behaviour should not be seen as an intention or actual decision. Instead, the unconscious origin could best be seen as an urge. Following this, Mele states that we can only speak of an intention that is formed when this initial urge reaches the conscious stage and subsequently lets the action consciously happen (Mele 2006).

What Mele does, just like a lot of other philosophers, is to reinterpret the experiment by analysing the experimental setup and look at the trivialities of the methodology. A problem with this is that Libet-type experiments have been done over and over again with (minor) varieties in the methodology. Thus in order to make an argument against these experiments, Mele has to consider all of the different methodologies. There is another problem with Mele's reinterpretation. If his reinterpretation is correct, then every action has to have a conscious origin. However, there does not have to be a causal correspondence between the conscious intention and the action as, among others, Wegner pointed out (Aydin 2013B).

Where Libet is a bit more cautious about involving the will, Wegner proposes that our conscious will might be an illusion (Wegner 2003). Wegner's experiment showed a few interesting aspects. The first aspect is that people think that they were in control of something they were not. This is proven by people falsely claiming to be in control of their own behaviour. The second aspect is the idea of priming. This involves that a certain word, symbol or material condition makes a person act in a specific way, or that a subject makes a decision that is informed by a symbol, word and/or material. This is shown by means of letting the subjects hear specific words, before they make the decision to land their mouse on the picture that matches that specific word. Priming shows that our unconscious plays a huge role in our behaviour. Subsequently, Wegner claims that there is something wrong with the way we experience conscious will.

In combination with Libet's insights about the discrepancy between the readiness potential and awareness of an intention, Wegner proposed the following scheme to explain the experience of conscious will (Figure 1.1, p. 9).

1.2.1 Uncovering presuppositions in neuroscientific arguments

In this section, I will discuss some presuppositions that support the neuroscientific arguments, I presented in the previous section. Subsequently, I will discuss their implications. These presuppositions are that 1) Wegner's denial of the conscious will is a denial of free will, 2) there is no difference in how neuroscientists look at short and long-term intentions and 3) that there is no distinction between phenomenal and reflective consciousness. Additionally, I will discuss the relations between the self, consciousness and free will and how this changes when we consider the previously mentioned distinctions for intentions and consciousness.

The claim that Wegner, Lamme and Swaab make is that the self coincides with consciousness. To understand this claim, we should first consider the relation between the self and free will. Free will can be considered as self-determination. That means that when someone acts in correspondence with how he wanted to act, we can say that someone did that act out of free will. Among others, Wegner approaches this idea differently. In Wegner's argument on the illusion of conscious will, he interprets his and Libet's experiment by looking at what the role of consciousness is in the decision-making process. The main goal of the experiment is to look at the onset of brain activity, the moment that someone becomes conscious of the intention and the moment that intention is actualised. The experiment showed that becoming conscious of intention does not initiate behaviour. Instead, consciousness is merely a temporal succession of brain activity and not the direct cause of the action. Therefore Wegner

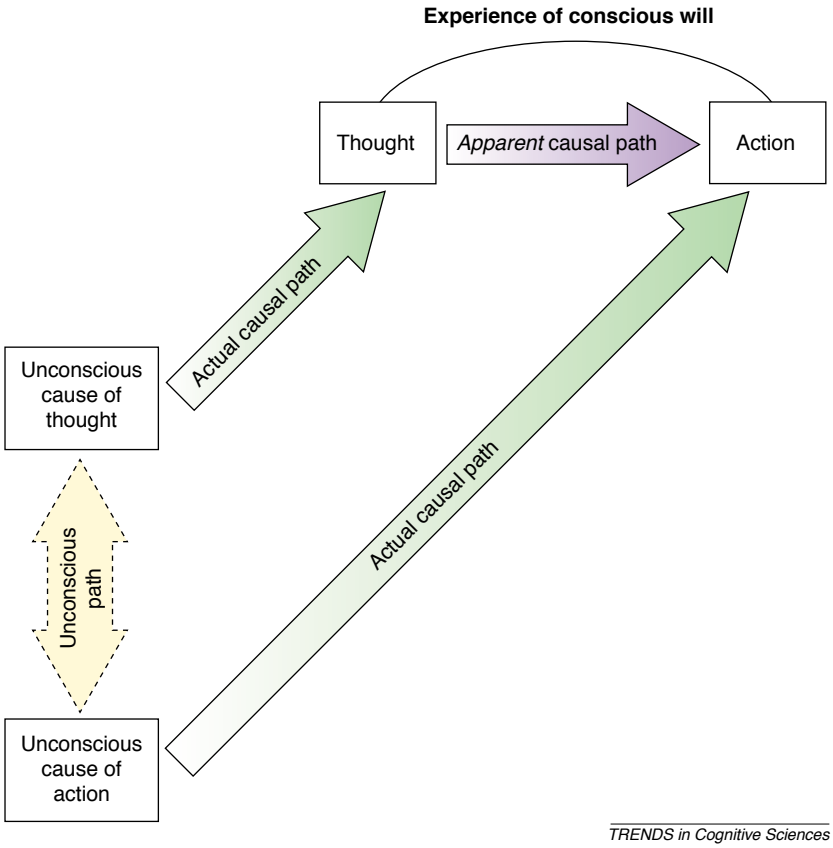

Figure 1.1: This is a scheme proposed by Wegner to illustrate how the conscious will is an illusion (Wegner 2003 p. 66)

claims that consciousness should be considered as an epiphenomenon. Additionally, it is not the self that causes behaviour, but the brain. Thus both the self and consciousness do not affect the brain. The brain, however, creates the self and consciousness. Therefore, not only conscious will is rejected, but free will as well. Wegner, Lamme and Swaab can only make this claim when they presuppose that the self and consciousness coincide. Thus in Wegner's argument there is no difference in the relation between the self and free will, and the relation between consciousness and free will.

The argument against free will can be challenged in several ways. First, we can change the conception of the self and challenge whether the self is the same as someone's consciousness. Neuroscientists such as Wegner propose a form of dualism between consciousness and unconsciousness. In chapter two I will elaborate on this form of dualism and consider the problematic aspects of how that concept of the self informs the debate around free will. In chapter three I will propose a different concept of the self. The second way to challenge Wegner's argument is to reconsider how intentions are framed. We have to consider two aspects. First, we have to look at what these intentions entail. In Libet's experiment the intention is to flex a finger, in Nisbett and Wilson's experiment the intention is to choose a pair of socks from a specific pile, and in Wegner's experiment the intention is to stop the cursor at a specific picture. These intentions are different from intentions that involve an ambition or a goal. This can be clarified when we consider the second aspect. This aspect involves that the intentions in the experiments are close in time before the action. The fallacy is that claims based upon these experiments are extrapolated to claims about intentions in forms of goals and ambitions. This means that an ambition is the product of brain processes as well, and not an intention that is formed by the self or consciousness. We can overcome this fallacy when we make several distinctions. First, we have to make a distinction between short and long-term intentions. Short-term intentions are close in time before the action. The intention that is measured in Libet's experiment is thus a short-term intention. Long-term intentions are less close in time before the action. For example, a long-term

intention is my ambition to finish my thesis. This distinction, however, leads to a different problem, because there is no strict point in time that demarcates a short-term intention from a long-term intention. To show how these intentions differ, we have to make a new distinction that involves in how those intentions emerge. This distinction involves becoming conscious of an intention and consciously forming an intention. Becoming conscious of an intention is linked to phenomenal consciousness. This type of consciousness is non-efficacious, passive and registers (Slors 2013). For instance, when we look at Libet's experiment someone becomes conscious of the intention to flex a finger. Brain activity presents the intention of flexing a finger to consciousness. Subsequently, phenomenal consciousness registers this intention. This does not have an effect on the action. Consciously forming an intention is linked to reflective consciousness. This type of consciousness is efficacious and active; it forms an intention. This can be explained by the example of taking a train to a place you have never been. In order to get to that place, you need information about when and where the train departs. This information can be gathered by going to the website of the railway company. On this website you will find several options to arrive at the desired destination. This information is needed to form an intention, namely taking the train from a specific time. The forming of this intention was not possible without consciously checking the website and make a decision based upon your personal preferences by means of reflection. The bottom line is that consciousness is needed in order to actually form an intention, and especially in this case where there was no pre-existing knowledge of, among others, the departure and arrival times.

There is, however, a counter argument against the idea of consciously forming intentions. The brain can unconsciously process the information and a subsequent unconscious mechanism can make someone become conscious of an intention. This is a solid argument, but there is scientific evidence that favours the conscious formation of an intention. The registration of information and the conscious thought make it possible for different parts of the brain to share information, and thus to integrate them (Slors 2013 p. 9). This helps decision-making mechanisms in the brain to have access to the relevant information. Therefore, it seems reasonable that the eventual decision would not have been possible without the role of consciousness (Ibid.). Psychologist Roy Baumeister found plenty of evidence that shows how consciousness does have an effect on our decision-making and future behaviour (Baumeister 2011). This sheds a different light on the relation between consciousness and free will.

Wegner and Swaab see the relation between the brain and consciousness as a one-way relation in which consciousness does not affect the brain. The mentioned distinctions and the empirical studies by Baumeister show that it is tenable that consciousness does have an effect on the brain and on the formation of intentions. Thus consciousness has an effect on future behaviour. This, however, applies only to long-term intentions. In light of Libet's free won't, where someone can stop unconscious actions a long-term intention can help as well to stop unconscious behaviour. For instance, while writing my thesis I sometimes browse on the internet for no specific purpose. When I become aware of this behaviour and think of my ambition to graduate, I can stop browsing and continue writing my thesis.

The assumptions about the self coincides with consciousness, becomes more problematic when we acknowledge the difference between short and long-term intention, because now the self only coincides with conscious short-term intentions.Therefore, among others, Wegner completely rejects the role of consciousness in our behaviour. The question we should ask to continue this inquiry is whether we should conceptualize the self as the only direct cause of behaviour. The distinction between short and long-term intentions shows too that there is a dimension missing in the explanation by Wegner. This dimension is how someone constitutes him- or herself. This idea of constitution, the shaping of the self, can be explained by the idea of long-term intentions. In chapter three, I will elaborate on the constitution of a self, and the consequences for free will in light of Helmuth Plessner's philosophical anthropology.

By making a distinction between short and long-term intentions we see as well a difference in the relation between the self and free will. The fact that people in Nisbett and Wilson's experiment are not free in their choice of socks from a certain pile does not affect the option that people acted

out of free will. For instance, they might have consciously formed a long-term intention for buying socks. In the store the piles of socks made them initially unconsciously aware of their intention and the brain presented this, now short-term, intention to the person's (phenomenal) consciousness. Thus the eventual act as a result of unconscious brain activity can initially have a conscious origin. This means that the self can still have influence on its unconscious behaviour and can even be considered as the (indirect) cause. Thus the notion of free will can still be saved.

A consequence of a self that coincides with its consciousness is that it informs the debate around free will into a specific direction by talking about freedom and unfreedom. This will be elaborated on in the next chapter.

1.3 Chapter Conclusion

Several neuroscientists claim that the brain determines our behaviour (Swaab 2010, Lamme 2010). Dick Swaab for example states that we are our brain and that our brain determines what we do and who we will become. We can rephrase this as that the person is not in control of its actions, but that his (unconscious) brain is in control. Alfred Mele tried to overcome this problem of not being in control. However, as I argued, Alfred Mele's attempt to save the notion of free will is not sufficient, because we cannot make sure that the conscious brain-states are the origin of our behaviour.

Marc Slors has stated, that when conscious thoughts are not the origin of our actions in combinattion with the idea of confabulation a toxic cocktail is created that threatens the idea of free will.

Even by making distinctions between short and long-term intentions we cannot easily save the notion of free will. We still need to know who is in control of their behaviour. Subsequently, we can ask the question to whom the unconscious brain belongs. Then, a follow-up question is why the unconscious behaviour and processes are not incorporated in the conception of the self.

With this in mind, we can have another look at the neuroscientific practice and look at the common denominator. For this we do not directly have to look at the actual setup, but we can look at the presuppositions that have been uncovered. According to Slors, neuroscientists often make the implicit assumption that the self is equal to the person's consciousness. This idea will be investigated in the next chapter. Therefore we have to look at the presuppositions of neuroscientific research, and look at how they perceive their subjects. In addition, we should look at how consciousness can influence unconscious processes. Baumeister claims that for a lot our unconscious behaviour conscious reflection is needed to form an intention. In order to do this we should not only look at the behaviour itself, but just as well at the formation of a long-term intention. Thus if consciousness has an influence on our unconsciousness, and subsequently on our behaviour, then the notion of free will can still be saved.

Chapter 2

What is the self anyway?

This chapter is about the self and in particular about certain dualistic concepts of the self. This is important, because in the previous chapter we have seen that claims that have been made by several neuroscientists are based upon their presupposition of a self. When they make the claim that it is not the self that causes behaviour, we need to understand what this self entails and whether this particular concept of the self is tenable. In other words, we need to understand how the concept of the self that coincides with consciousness informs the debate around free will and how that concept moves that debate in a certain direction.

The dualistic concept of the self can be traced back to modernity. In this chapter I will present how the modernist idea of the self came into existence, stayed like this within neuroscience and why this concept of the self is not tenable. I will argue that the self that coincides with consciousness is closely linked to the modernist account of the self. That means that it is 1) essentialist, 2) isolated and 3) that it coincides with consciousness (Aydin 2013B).

Additionally I will show how the self is subject to technology. Subsequently I will show how technology can influence subject and object. By looking at the effects of imaging-technology on the framework of interpretation of scientists I will show the persistence of (imaging-) technology on the modern subject. For this we will turn to Don Ihde's work on technoscience. An underlying question is how a self can be in control of its behaviour, and thus practice free will. When we want to assess whether someone is in control of their behaviour, we should have a look at how that might be possible. At the end of the chapter, I will argue why exactly we need a different concept of the self.

In the next chapter I will present In the next chapter I will present an anti-essentialist concept of the self and subsequently a different idea of freedom. In this chapter I will present the self that coincides with consciousness to eventually make clear why we should consider the postulation of an anti-essentialist self for neuroscientific interpretation.

2.1 How did the self coincide with consciousness?

As been said at the end of the first chapter, Libet and Wegner created the question whether humans have influence on their behaviour and are free over their lives. They have created a toxic cocktail, which entails that we do not create our own intentions and that our explanations for our behaviour are just ramblings that try to make sense of what happened.

However, as we have seen in the first chapter the case is that those experiments say something about the role of consciousness in short-term intentions (Slors 2012, 2013). Thus the concept of the self can easily be replaced with the term consciousness. Wegner does not distinguish between the two. For example, some neuroscientists say that we do not create intentions but that our brain does. In other words consciousness coincides with the self.

Marc Slors framed the basic argument as follows:

- I am my consciousness
- My consciousness does not determine what I will do
- Ergo, I do not determine what I will do (Slors 2012)

The argument is valid, but we should question whether this argument is sound. Additionally this argument shows that even though Wegner talks about the illusion of conscious will, by coinciding the self with its consciousness, he rejects free will as well.

Now I wonder 1) how neuroscientists came to the idea that the self coincides with consciousness, 2) how this concept influences the debate around free will, 3) how this concept of the self is maintained by means of imaging-technology in the neuroscientific practice and 4) whether this concept of a self is tenable. For the epistemology of the self that coincides with consciousness we have to go back and focus on the enlightenment. Specifically, I will focus on René Descartes' ideas about autonomy and the self. Concerning Descartes I will 1) look at the role of the rationality in our behaviour and 2) consider dualism's demarcation between inside and outside and how we can find this in modern neuroscience.

For checking whether the dualistic thesis is tenable I will 1) take a closer look at the inside-outside demarcation, 2) look at technological underlying mediations that helped to create this concept of man and 3) look at scientific data that contest the dualistic view.

In order to investigate this I will turn to the question what a modern self entails and how that self came into existence. In the section 2.2 I will look at how that conception of the self could be maintained by technological mediation in the neuroscientific practice.

However, for this section it is important to focus on the concept of autonomy. Autonomy means self-law and can be seen as a rationally formed principles for how someone wants to act. This concept, heavily submerged in the concept of the self, depicts the relation between a person and his world. I want to show these human-world relations do not withstand when we consider how technology influences subjectivity and thus the self. The differences in how human-technology-relations are depicted can give us more insights in the legitimacy of some conceptions of the self. First, let us move to the modern self.

2.1.1 Modernity, camera obscura and autonomy

In this section I want to show how the neuroscientific concept of the self is linked to the modernist idea of the self as are proposed among others by René Descartes. In the interpretations of among others Wegner the self coincides with the physically realized consciousness, where the modernist account of the self is considered as consciousness. The aspect they have in common is that they hold on to a dualistic concept of man (Slors 2012, Aydin 2013B).

Descartes' aim in his philosophy was trying to find absolute truths just as how mathematical proofs are absolute truths, because mathematical proofs cannot be questioned. Descartes wanted to set up a theory of knowledge. His idea was that everything outside him could be subject to deceit. According to Descartes, his mind, and specifically his introspective thoughts were not subject to such deceit. He considered these introspective thoughts to be immediately accessible and therefore infallible. This is as well part of his dualism that existed by means of that demarcation. The mind and his introspective thoughts were part of the res cogitans while everything else was part of the res extensa. The subject is part of the res cogitans, the thinking matter. This is linked to a conscious act of thinking, but more strikingly it is about how a self is constituted by conscious thinking. Descartes claims that on one hand someone has immediate access to his own thoughts. On the other hand, someone does not have this same access to its body, since the body is part of the res extensa and therefore might be subject to deceit. The consequence is in Cartesian terms that one primarily identifies himself with his consciousness. Subsequently, there is a demarcation between a subject and an object. This is illustrated by the analogy Descartes made with the camera obscura. Descartes focused on the camera obscura as an analogy for dualism. Camera obscura literally means dark room and was during the renaissance primarily used by artists in order to paint from a centre perspective. The mechanism of such a camera obscura is that light enters the room, or in some cases a dark box,

via a lens. This lens flips the incoming light upside down. When the wall of the room is in the focus of the lens, the outside world is projected (upside down) on that wall. When a canvas was hung on the wall, it was possible to paint over the projection, making it easy to paint a centre perspective. Thus the camera obscura was a proper tool to paint a centre perspective. However, the camera obscura was more than just a tool for painters. René Descartes thought of the camera obscura as the model for knowledge creation. Thus the camera was an engine for knowledge (Ihde 2007). In this model, the camera could be seen as a metaphor for the eye, where the lens of the Camera Obscura is in fact the lens of an eye. The person in the room was the homunculus, the little person in the brain that is the connection between the external and the internal world, which is also the link between the ontic and ontological reality. In other words, the self is isolated from the external world and can only relate to representations of this external word. This idea entails a strict demarcation between inside and outside. Subsequently the demarcation between inside and outside presupposes some sort of independent entity. Conscious introspective thoughts are not affected by external influences.

Considering the camera obscura as the model of creating knowledge becomes problematic when we want to assess the metaphor. The external world, for instance, can be considered as the light that enters the dark room via the lens. The image it provides on the wall can be seen as a representation, a thought. The subject is in the room (or "the skull") only looks at his own thoughts. These thoughts, Descartes states, are isomorph with the external world, because God makes sure that both worlds are the same (Ihde 2007). However, this "Divine intervention" turns the argument in an epistemologically unsolvable issue.

When we move to technological mediation from a modernist perspective we first have to agree that subject and objects have a fixed identity and separate existence (Verbeek, 2007). In modernity, technology does have a mediating role, but is in itself neutral. It can only determine "how objects be present to a subject and how a subject can be present in the objective world"(Ibid. p. 45). Thus technology does not alter the self or the object of perception. That is to say, technology does not do that from a modernist perspective. Now we have to ask ourselves how this human-technology-relation defines the modernist account of autonomy. Autonomy is highly rational. The idea is that humans can make rational claims about most of their thoughts. For Descartes there were two worlds; res extensa and the res cogitans. When we go back to the example of the camera obscura, we can see the res extensa as the world outside the box and the res cogitans as the dark room. Descartes claimed that information from the outside world could initially not be known, but his inner thoughts, the ideas in the dark room, were infallible. Only by following reason one could eventually have certain knowledge of the outside world. This intuition was what led him to his famous statement '*cogito ergo sum*'; I think, therefore I am.

Concerning autonomy this means that it has to be situated in the darkroom, in the innerworld. For example, when some art historians found out that renaissance painters used a technology as the camera obscura for the new centre perspective in their paintings, the historians said that the painters cheated, as if they did not paint the painting themself. The 'cheating' is that they did not authentically paint the perspective, but made use of a technology. Thus the camera obscura influenced the painters and their paintings (Ihde 2007, Verbeek 2007).

In modernism, subjectivity and objectivity are separated and 'unshakeable' (Verbeek 2007). Subjectivity is related to a person that is the perceiver, while objectivity is related to the thing that is perceived or not perceived (Ibid.). The example of the camera obscura shows that the way of perceiving is altered. Thus perception is not something that is separated from the world; instead it depends on the human-world relations, meaning that objectivity and subjectivity are 'shakeable'. This shows that the postulation that technologies are neutral fails to give weight to however the objectivity and subjectivity have changed. If we cannot make the claim that the subjectivity is altered, some sort of pre-existing self or an essence should be postulated. Thus the modernist approach lacks is to question how objectivity and subjectivity are being constructed as products of technical mediation. Hence, the modernist focus is on a 'natural' state of being. Subsequently the self is associated with a state of being opposed to a state of becoming. When we consider the modernist idea of objectivity as a

product of technological mediation, we can see the 'new' centre perspective as a way of disclosing reality, or a new existential space that is made possible by the existence of the technology (cf. Verbeek 2005). This is in contrast to the idea that images made by the camera obscura are the only realistic way of depicting reality. Thus instead of looking at those pictures as 'realism', it is better to see it as "a form of exercising the new visual regime imposed by the camera obscura" (Verbeek 2007 p. 46). This leads us to the idea that the modern self is not an ahistorical concept, but a historical one. Due to the strict demarcation between the self and the outside world, the dualistic concept of the self cannot explain how the camera obscura influenced the way we consider ourselves.

2.1.2 The link between Descartes and Neuroscience

Now I have to make the jump from this Cartesian idea to the idea that the self coincides with consciousness. For Descartes the res cogitans and the res extensa are unshakeable. This fundamental distinction is justified by means of introspective thoughts that isolate the self from the external world. In addition is consciousness, which coincides with the res cogitans, the cause of our behaviour.

As we have seen neuroscientists as Wegner argue against the claim that consciousness is the cause of our behaviour. In a sense the walls of the camera obscura are torn down. Subsequently the self has tumbled into the res extensa and has become an object for scientific investigation. However, by rejecting Cartesian dualism, Wegner, Swaab and Lamme propose a different type of dualism. Therefore the debate around free will stays in the same paradigm, albeit slightly differently.

Neuroscientists such as Wegner and Swaab often propose a demarcation between a conscious-self and unconscious-brain processes, which cannot be ascribed to that (conscious-) self. Thus this dualism involves a conscious-mental and an unconscious-bodily realm (Aydin 2013B). I will call this the conscious-unconscious dualism. For neuroscientists such as Wegner, Swaab and Lamme, the brain and consciousness are related as in the brain creates consciousness. In that sense there is a shift in the Cartesian 'ghost in the machine' to the neuroscientific variant of a 'brain in a machine'. The self shifts from a centre were consciousness is related to the self, to a centre from which the brain is that centre (Ibid.). With this shift neuroscientists got rid of the homunculus. However, a demarcation between the internal world of the brain and the external world of others and objects still remains. The brain is now the autonomous agent that makes decisions. Therefore the brain is isolated, just as the self is in Cartesian dualism. The difference is that the self is now part of the res extensa. Subsequently the self can be objectified in terms of brain activity.

Both forms of dualism have an influence on the debate around free will. The debate is informed by 1) isolating the self from the external world, 2) considering the self and free will as unchangeable essential properties, 3) a black-white distinction between freedom and unfreedom and 4) that the self does not really exist when consciousness does not have a role in our behaviour.

In a mind-body dualism there is no explanation for how a self can be changed. Dualism does not allow looking at human-world relations by means of mediation. Therefore it is not possible to describe how the environment influences a self. Instead the self is isolated. If the environment cannot change a self, then the self can only exist as an essence (or has to be pre-given): it has to be there independent of environmental influences. This has consequences for free will and the debate around free will. Free will is dependent on the self and therefore cannot be changed by the environment either. In Cartesian dualism this means that if a person has free will, this has to be part of its essence. It is an essential property. This means that in the debate a pre-given form of free will is considered in the form of an essence. Concerning conscious-unconscious dualism this goes the other way around. The brain is the originator of thinking and behaviour. Thus when Wegner, Swaab and Lamme show that the self or free will is subject to change they argue against Cartesian dualism. However, instead of rejecting the concept of free will as an essential property, they reject the concept of free will completely. They claim that in order to have free will, consciousness needs to have an (direct) effect on our behaviour. In the argument of Wegner consciousness cannot influence the brain and because free will is in his view linked to what consciousness can do on the short-term, it is impossible to have free will at all. Therefore the debate stays in the same paradigm. From this perspective, Wegner and Swaab argue against an

idea of freedom as an essential property by showing that the property does not exist. This leaves us with a black-white distinction between freedom and unfreedom. Thus free will is only considered as an essential property. That essential property either exists or does not exist. Let me make clear that this idea of an essential property is implicit in the argumentation of, among others, Wegner.

When the self coincides with conscious short-term intentions and subsequently the brain creates those short-term intentions, then the self only exists as an epiphenomenon. The question we should ask is why a self only exists in terms of the actions it directly consciously causes. This becomes clearer when we consider the biological trait of a person's sexual preference. The fact that someone does not have a free choice in being homo, bi or heterosexual does not mean that someone is not free at all or that the self does not exist; a self relates to its sexual preference. Therefore the sexual preference is even part of the self. Using this example I want to illustrate that we should not limit the self to what it consciously can do, but that we should broaden the concept of the self to something that is more than merely conscious short-term intentions. For this we need an idea to clarify how someone has a relation to these pre-given biological preferences. I will show this by the concept of eccentricity in chapter three when I will turn to Helmuth Plessner's anti-essentialist philosophical anthropology.

Later I will return to the problematic aspects and impossibilities of a fundamental demarcation between an internal and external world. First, I want to continue with the hunch that technologies can be underlying mediations in how we consider a self. I am interested in how technologies in the neuroscientific practice might keep modernist ideas of the self alive.

2.2 What is the role of technology on the neuroscientific practice?

The previous section demonstrated that technology has an effect on how we conceptualize ourselves. The camera obscura was an underlying mediation that heavily influences the concept of the self. In this section I want to investigate how imaging technology in the neuroscientific practice helps to keep this modernist idea of a self alive. I will do this by adopting Don Ihde's postphenomenological approach. This offers me a base for describing how scientific perception is co-constructed by technology.

First we will consider science in general and subsequently move to how Ihde came to the idea of the technological embodiment of science in general.

2.2.1 The Technological Directions of Science

Since Thomas Kuhn introduced his philosophy of paradigms, science has lost its position as a truth-telling discipline. Kuhn's ideas about paradigms emphasized how much influence the social dimension has on the practice of science (Verbeek, 2005).

Don Ihde thinks that we should extent the idea of paradigms. Based on, among others, Heidegger's claim that "technology has primacy over science,"(Ibid.). Ihde developed a framework in which a scientist is not just merely an observer, but a subject that has learned to perceive in a specific way. Additionally Ihde included technology as part of the context of scientific knowledge-production.

These insights transformed science from a truth-telling discipline into an explanatory discipline. In other words, scientific knowledge is context-dependent. Thus scientific claims should be understood from the context it is based upon. This context involves the scientists, their ideas and the technologies they are using.

Peter-Paul Verbeek paraphrased Ihde's work as follows: "What role do technologies play in the way in which human beings interpret reality or, conversely, in the way in which reality comes to be meaningful for human beings?" (Verbeek 2005 p. 128). In addition he formulated the question: What are the implications of technological mediations for our experience for the way in which the human world acquires meaning?(Ibid. p. 130). The premise is that technology has an influence on our concept of the world, and, in this specific case, of science. Thus for the scientist this means that he is not just an objective observer. Instead a scientist is subject to how something is presented to him and how that scientist is used to interpret the object of perception.

The key to the hermeneutic question is according to Ihde, (human) perception and the sources that can influence that perception. So science could best be understood as *a way* of seeing what represents the world in terms of parameters, instead of *the way* of seeing, as if it is an infallible manner to look at the world. Besides, we should include how technologies affect the scientific way of seeing. For this we have to take macroperception and microperception in consideration.

2.2.2 Perception, direct and indirect

Ihde claims that (scientific) perception is partly direct and partly indirect. In addition, these forms of perception affect each other. In order to describe this interaction Ihde formulated two dimensions of experience: *microperception* and *macroperception* (Ihde 1991).

Microperception is the sensory-bodily aspect of perceiving. This kind of perception is characterized by being a direct way of perceiving, like perception by the naked eye (Ibid.). Macroperception, on the other hand, is indirect and could best be seen as a cultural or hermeneutic perception (Ibid.). Thus the perception is by means of artifacts. For instance, imaging technologies such as fMRI and x-ray. It should be noted that macroperception and microperception are intertwined and both can affect each other.

Ihde says that in order to consider science one should as well consider the sensory perceptions of scientists, because those scientists have learned a specific way to look at the world due to their interactions with technology. It should be noted that, although Ihde claims that microperception is direct, microperception is subject to the scientist's framework of interpretation. For instance, the phrase I see a tree only makes sense when the person has an idea of what a tree is. Thus the microperception cannot be direct.

Therefore I would say that it is as well important to take this indirectness of microperception in consideration and look at how the framework of interpretation of a neuroscientist is constructed, or at least to consider what that framework of interpretation entails. In our case that would be looking at how some neuroscientists already presuppose a conscious-unconscious demarcation.

Ihde claims that technology affects perception. Technology even transforms perception. This idea can be found when we look at how naked perception can be different from other forms of perception as is the case with making ultraviolet wavelengths visible, or by showing a frequency in sound that is outside the human hearing spectrum. Imaging-technologies are as well different from naked perception. Summarized, those phenomena can never be seen with the naked eye or heard and have to be translated into a visible or audible form.

Ihde formulates different relations one person can have with technology. Our focus should be on imaging-technologies, since these have a prominent place in the neuroscientific practice. Some technologies merely enframe a certain aspect of reality and, for instance, enlarge it, like glasses and microscopes (Ibid.). On the contrary, some technologies in the neuroscientific practice, like EEG's and fMRI's, create a picture that is not normally observable. It constitutes a specific part of the world. The technology already pre-constructs reality before humans can observe it. For instance, technologies can create a text-like visualization by translating data, such as brainwaves, into a graph (Ihde 1999). Such phenomena can now have a representation that can be read. Ihde warns that such readable representations can look similar to microperception, but the macroperception has a large influence on the microperception due to the transformation of the perception. For example, an fMRI-scan could look like a photograph. Then the perception is very similar to the perception of a naked eye. However, such a scan does not represent a phenomenon that is perceivable by the naked eye.

2.2.3 The indirectness of neuroscience

Ihde proposes a form of interpretation, which he calls the strong program (Ihde 1999 p. 170). He claims that technologies actually co-constitute scientific knowledge. For example, where a picture of an x-ray scan can be found in reality (if you cut deep enough), you will not find an fMRI-image by merely using the naked eye. Thus technologies such as EEG's and fMRI's create phenomena that

otherwise could not have been observed. Therefore those technologies constitute phenomena in itself. For instance an EEG, as is used in Benjamin Libet's famous experiments, measures electrical signals by means of several electrodes located on the outside of the head. These detected electrical signals are called brainwaves. Subsequently the brainwaves are collected and depicted in graphs that correspond with the location of an electrode. Basically, the unobservable phenomenon is translated into a readable phenomenon. Something similar happens with fMRI. The anatomical pictures that are reconstructed by a computer can be found in the actual world. The brain activity, however, is not directly observable. In addition an fMRI-image does not show brain activity as such. Instead it shows changes in blood flow and oxygenation that supposedly correlates with energy use of brain cells and thus brain activity.

Ihde writes about computer-reconstructed pictures that here mathematics and imagery or constructed perceivable depictions meet. I claim this is important to a strong hermeneutics program in understanding science(Ibid. p.175). And that is true for fMRI, since it is represents the differences in magnetic resonances of the several body tissues. The later visual representative is just the anatomy, the map on which we want to see activity. So there is a part that is actually representative, although in a different colour-scale, for naked perception. The actual brain activity, in contrary, is not representative for microperception in any way.

But how does technology transforms the microperception? First of all macroperception is altered by the use of a technology. We see a picture that anatomically seems representable for what we can nakedly perceive. Thus by (carefully) cutting someone open we might eventually see these bodily structures that are also perceivable by means of an MRI-image. So at first the MRI is focused merely on the head. Even stronger, the focus is on one particular organ at the inside of the head: the brain. Furthermore we should think of what the activity we see on fMRI-scans exemplify. These activities are often represented with a specific colour: red for an increase in brain activity and blue for a decrease in brain activity. By adding colours a few things happen: the eventual picture gets less fuzzy because there is a contrast that becomes stronger. Brain activity is amplified at certain places and not at others, while the image actually just shows a difference in brain activity compared with the baseline measurement.

Thus the microperception is at least affected by the idea that the scan looks like something we perceive by the naked eye, such as a photograph, without being aware of the amplifications, reductions and choice for baseline measurement. However, when we look at Don Ihde's argument about technological mediation and the concept of the self, we might want to turn to how macroperception by means of neuroscientific imaging-technology contribute to the sustainment of a modern self.

The epistemological consequence is that neuroscientists have a framework of interpretation before they interpret fMRI-scans. They see the brain as the originator of consciousness. There is no relation visible between the world and consciousness, only an idea of a relation between the world and the brain and the idea how that brain eventually produces consciousness. In that case, the knowledge derived from the fMRI-scans still is framed in a dualistic paradigm.

2.2.4 The conscious-unconscious dualism, a sustained image

Philosophers Roskies and Klein already commented on the fallacy of neuroscientific imaging. Roskies has already shown that we should not see fMRI images as photographic pictures, since they do not represent a reality (Roskies 2007). Roskies means with a reality the way that humans directly perceive the world. Instead fMRI-machines co-construct a reality. Klein claims that fMRI-scans are not evidence (Klein 2010). I, however, am still interested in how such imaging-technology helps to sustain a dualist idea of the self. My hunch is that the theory that neuroscientists use to interpret fMRI images influences how neuroscientists eventually perceive and interpret their visual data. In our case such a pre-existing theory is the concept of the self that neuroscientists such as Wegner endorse. To recapitulate, this concept of the self is that it coincides with conscious short-term intentions, while there is a fundamental distinction between consciousness and unconsciousness. I will look at how this fundamental distinction between consciousness and the brain is sustained by 1) comparing how the model of the camera obscura for understanding the self relates to an fMRI-scanner, 2) looking at

what an fMRI-image visually depicts and what is does not depict and 3) how the isolation of action generalises intentions. When we take a closer look at the three aspects we will get an idea of how the conscious-unconscious dualism is sustained due to a technologically mediated perception.

Firstly, we saw that the camera obscura is considered for the dualistic concept of the self. The fMRI-scanner does something similar with the conscious-unconscious dualism. There are however some differences between the camera obscura and the fMRI-scanner. The camera obscura is a model to show how a self understands the world by means of representations in the dark room. That representation informs the self about the world. However, what actually happens in the dark room, in terms of how a self decides how to act, remains unclear. In Descartes' explanation a conscious self performs this decision-making, but this self cannot be objectified. Thus the dark room is in that sense a black box. In contrast, the fMRI does not look at representations as such, but in how the brain deals with external stimuli. Thus the fMRI shows the interior of the dark room. In that respect the dark room and subsequently the self becomes part of the res extensa. Now the self can be objectified and scientifically investigated. The fMRI is a model to see how external stimuli are processed in terms of brain activity, which can eventually cause behaviour. This is in contrast with how the camera obscura is considered as a model for understanding the self.

Secondly, when a conscious-unconscious dualism is presupposed before interpreting fMRI-scans we see that this type of dualism is inherent to an fMRI. The focus is on the inside of the head, because that is the object of scientific investigation. There is no real focus on what is happening outside the brain and how the experimental setup might influence someone's state of mind. Thus we see the brain and its activity, but not consciousness, the external world and the body. When we look at Libet-type experiments, information about consciousness is gathered by asking the subject when they become aware of an intention, not by the visual data. In addition, the act of reflection is as well not visible on an fMRI-scanner. Thus if consciousness has an effect on the brain then is not visible. At most it is reduced to an external stimulus. Thus when neuroscientists say that the locus of free will is in consciousness, it is impossible to find this on an fMRI-image. Subsequently, their assumption of free will is not visible on such an image. Instead only the brain and some of its activity are depicted. In combination with an assumption of conscious-unconscious dualism the brain is depicted and interpreted as an independent, isolated entity. This affects the framework of knowledge production, because the brain is in the centre of every decision or movement and subsequently it is in the centre of every explanation about decision-making and behaviour.

Thirdly, the isolation of the brain from the external world leads to a certain framework of knowledge production where the brain is the centre of everything. It shows how external stimuli are entered and how brain activity leads to behaviour. This is done by the specific isolation of certain brain activity. As described earlier, the difference between the baseline measurement and the second measurement is shown in colour. What happens is that in other places there can still be brain activity, but that is not what is shown. There is only the image of difference in brain activity. Thus the reduction of other brain activity and the emphasis on certain brain activity helps to isolate specific actions. Simultaneously, an fMRI-image can only depict the brain activity prior to an action and therefore it is only possible to look at short-term intentions. However, this reduction of brain activity leads to a reduction of the self by not considering the subject's history. The reduction of other brain activity and the impossibility of knowing the content of brain activity helps to sustain the idea that there is no difference between long and short-term intentions.

Thus there are three aspects that help to sustain the dualistic idea of the self and this is due to the technologically pre-interpreted perception (macroperception) in combination with a cultural pre-interpretation of perception. What these aspects show is that macroperception is highly mediated by all kinds of computational reconstructions and this has an effect on the naked perception, the microperception. In addition the theory of the neuroscientist is of great importance. The theory is the a priori to microperception and the following scientific interpretation. Alva Noë claimed that a lot of scientists see the brain as a Swiss-army knife (Noë 2009). This entails that there is the assumption that every region of the brain has its own specific function. But when we focus on the amygdala for

instance, research has shown that it is associated with very different functions such as aggression and sexual orientation (Elst et. al. 2000). What is shown on the image is a difference in brain activity, but it is impossible to know what the content of that brain activity is by just looking at the image. For this researchers look at the experimental setup and draw conclusions from that. This is as well a consequence of accepting that brain states are equal to the state of mind, while there is still an explanatory gap between how a brain creates consciousness.

2.3 Why the inside-outside demarcation is not tenable

Daniel Wegner, Dick Swaab Victor Lamme all accepted a form of brain-body dualism. Vilayanur Ramachdran even explicitly claims that conscious perception is the self (Slors 2012 p. 88). However, in both philosophy and science there is evidence that suggest that such a concept does not have the explanatory power to describe 1) the interaction between outside and inside and 2) the relation between consciousness, intentions and behaviour.

Philosophical evidence is suggesting problems in how a self is constituted by its environment when a certain pre-existing self or essence is presupposed.

2.3.1 Philosophical Objections

While discussing Descartes' explanation of knowledge-production in analogy with a Camera Obscura, it already became clear that there was a gap within Descartes' explanation about how we can be certain that the representations in our minds are isomorph with the actual object of representation. The problem is that if someone can only have knowledge of representations and no actual knowledge of the outside world, we cannot know whether that representation is isomorph. In the analogy we are in the dark room, but to know the object of representation one has to be simultaneously outside and inside that room in order to compare the representation with the object of representation. Descartes' explanation that God makes up for this explanatory gap is not satisfactory, since it is more of a theological argument than an actual philosophical explanation.

In more contemporary philosophy there are other criticisms against the distinction between the inside and outside world and the idea of introspection. Introspection is often understood as the manner how someone comes to certain believes and knowledge over its own mental states (Schwitzgebel 2012). Several aspects are ascribed to introspection (Aydin 2013A). These involve that introspection is authoritative, meaning that the knowledge over our mental states cannot be challenged. Introspection is as well privileged. This involves us understanding our knowledge of our mental states better than knowledge of the mental states of others. Furthermore introspection is often considered as immediate. This involves that introspection is independent of perception and that no reasoning is involved to come to that belief. Ciano Aydin (2013A) mentioned three of these criticisms by Gilbert Ryle, Daniel Dennett and Peter Carruther.

Gilbert Ryle argues against the legitimacy of introspective knowledge. He claims that the mind is not an independent entity. Instead he argues that in order to get introspective knowledge we need to observe the behaviour of other people. From these observations we derive words and apply this to our own conduct (Aydin 2013A). This means that external cues are necessary for the existence of self-knowledge. Since self-knowledge is a derivation of knowledge of others, we can no longer speak about a privileged access to our self-knowledge.

Daniel Dennett has created heterophenemology as an alternative to Cartesian dualism. Heterophenomenology entails that there is no difference in consciousness and how we think of consciousness (Ibid.). If we want to have an understanding of ourselves, we have to do this from a third-person perspective, because our first-person reports of our mental states are gathered from outside (Ibid.). Thus the authoritative introspection thoughts, as we can find in Cartesian dualism, are dismissed.

Peter Carruther dismisses as well the authority of introspection. He says that every mental state is based on the interpretation of sensory information. This entails that there is no difference in the

knowledge of our own thoughts and those of other people. Therefore one cannot make a distinction between introspection and extrospection (Ibid.).

What these criticisms show is that there is no real fundamental distinction between outside and inside. They stress the importance of the environment for the constitution of self-knowledge. Ryle and Dennett are monists. This involve that they argue that one type of substance makes up reality. Therefore they do not only reject the fundamental distinction between inside and outside, but they reject as well the descriptive distinction between inside and outside. I agree with the fundamental distinction. However, I think that a descriptive distinction between inside and outside can still be helpful when we adopt a pluralistic concept of the self. I will elaborate on this idea in the next chapter when I consider an anti-essentialist notion of the self.

For the dualism that neuroscientists as Swaab and Wegner propose, this involves similar consequences. They too presuppose a strict demarcation between the brain and the outside world (Slors 2012).

A second line in thought is that in neuroscience there is no distinction between short-term and long-term intentions and there is no distinction in types of consciousness. For instance one can talk about a reflective consciousness and a phenomenal consciousness. The phenomenal consciousness is how someone perceives and registers passively, while a reflective consciousness is necessary for taking an outside perspective like described above. One might object that a long-term intention is also derived from unconscious brain activity and that we are not in control of our long-term intentions as well. But, as we have seen in chapter 1, there is no scientific evidence that would support that claim, since only short-term intentions have been included in the existing experimental setups. Therefore based on scientific (and philosophical) grounds it would at least be premature to reject the role of consciousness on our behaviour.

2.3.2 Scientific objections

In addition to the philosophical insights about why a modernist self is not tenable, we can find supportive data in neuroscientific experiments. Not only does it dismiss Cartesian dualism, but the alternative of conscious-unconscious dualism as well. There are four experiments; embodiment/envatment, neuroplasticity, the environmental importance and the role of consciousness in making decisions.

The self that coincides with concsiousness is centred in the brain; it is isolated from the external world. However, some neuroscientific evidence shows the importance of a body in the constitution of the brain. Neuroscientist Antonio Damasio, for instance showed that the nervous system provides a neural map of the human body. This means that both are interconnected with each other by continually "tracing the state of the body through a series of core neural structures" (Parvazi & Damasio 2001). According to Damasio, that neural map constitutes a "proto-self", thereby emphasising the importance of the body as a point of reference and as part in the constitution of a self (Damasio, 1998,1999, Parvazi & Damasio 2001).

Diego Cosmelli and Evan Thompson challenged the concept of the isolation of the brain in their article "Embodiment or Envatment? The bodily basis of consciousness". The term envatment is originated from a contemporary thought-experiment of Descartes' dualism; the brain in a vat. This entails that the brain can have its own life when it is connected to some sort of computer. The claim often is that a brain does not need a body. Cosmelli and Thompson state that when the brain-in-a-vat-thought experiment is often used, nobody focuses on what the vat should look like. They claim that the environment needs to be taking into account in how the self is constituted. The body helps to constitute reality as much as the vat and the computer. Without both, a brain could not get a sense of reality or a self. In other words, the brain and the world are interdependent. Without the world there is nothing to experience and without a body there is nothing to experience with.

Alva Noe (2009) also stresses the importance of the environment for the creation of brain states. He shows how the relation between the body and the external world physically affects the brain by the concept of neuroplasticity. Neuroplasticity is the phenomenon of how neural pathways can change. Noe did an experiment with infant ferrets. He manipulated the ferrets' eyesight by connecting the

visual neuron with the auditory cortex instead of the visual cortex. Subsequently the ferrets learned to see with use of the cells in the auditory cortex. Again, showing the bodily basis for the behaviour of the brain and that the body cannot easily be dismissed in the understanding of a self (Noë 2009). Similar acts of neuroplasticity are found in human beings. The brain regions associated with listening and language in deaf people, for example, are more active for visual stimuli. For instance, this occurs when deaf people look at sign language (Lambertz et. al. 2005).

Some neuroscientist reduce consciousness is to an epiphenomenon, a by-product of brain activity. Dick Swaab for instance only sees how the brain affects consciousness and dismisses any role for consciousness. Even Wegner's scheme (Figure 1.1, p. 9) does not suggest a role for consciousness for making intentions or decisions. Or to be more precise, his framework does not allow the role of consciousness in making long-term intentions (Slors 2013).

Roy Baumeister found plenty of evidence in psychological studies for how consciousness plays a role in decision-making. Baumeister (2011) presents four conclusions based on his evidence. These are 1) that consciousness integrates behaviour across time. 2) Consciousness is necessary for the individual's behaviour to be informed by social and cultural factors. 3) "Conscious thoughts are influential in situations that present multiple alternative possibilities" and 4) all human behaviour is an interaction of conscious and unconscious processes.

2.4 Why we need a different concept of the self

First, we saw that there is a dualistic account that moves the debate around free will to a distinction between freedom and unfreedom. Subsequently we saw that both philosophy and science do not provide evidence for considering Cartesian dualism or conscious-unconscious dualism as a tenable position. Thus the concept of the self that, among others, Wegner proposes is not tenable, but it heavily influenced the debate around free will. Both forms of dualism isolate the self from the external world. In case of conscious-unconscious dualism it does not matter whether that self is centred in the brain or in consciousness. The problem remains that there is a one-way relation between the brain and consciousness, while reflective consciousness and scientific data are suggesting otherwise. The environment and the body do not have a neutral relationship with the brain. Instead the environment and the body shape the brain and pre-construct decisions. The relation between the body, brain, consciousness and environment is what constitutes the self. In addition, the assumption of an essence is highly problematic. We have seen that the assumption of an essence leads us to a black-white distinction between freedom and unfreedom. In addition, the problem with having an essence is that it leaves us with a gap of knowledge. This gap involves that we do not know where this essence comes from. Somehow a self is dropped into a body and from that moment the self is the one that makes decisions. How this essence comes to existence is ignored. In my view this idea of an essence turns the debate in a wrong direction. Why would an unconscious unfree act not be part of the self? In order to answer that question I think it would be a necessity to understand how a self comes into existence, but in order to do this, we need to say farewell to idea that the self is an essence and that the self is isolated from the external world. We can explain how a self comes into existence in relation to its environment by adopting an anti-essentialist concept of the self. Anti-essentialism involves that there is no essence considered. The consequence for the self and free will is that these concepts are no longer pre-given essential properties, but instead are formed while relating to the environment. As it goes beyond the scope of this chapter, I will elaborate on the anti-essentialist concept of the self in the next chapter where I will turn to Helmuth Plessner's anti-essentialist anthropology.

2.5 Chapter Conclusion

There are basically two types of dualism mentioned, the Cartesian and the on between consciousness and unconsciousness. The first entails a strict demarcation between objects and subjects, while the self is isolated in the consciousness. The latter involves as well a demarcation between inside and

outside and with that an isolated, pre-given concept of the self. Only is this self physically centred in the brain and considered as an epiphenomenon. Both dualistic concepts focus as well on a self as being static and as an essence. Hence, free will is considered as an essential property. The modernist concept is still alive within neuroscience and this is partly due to underlying technical mediations in the neuroscientific practice.

Imaging-technologies are computer-reconstructions that try to make a certain phenomenon visible, while there is no actual isomorph correlate available. From this we should try to understand what we see and how this picture affects our direct perception. If we understand some of our mediations, we might get a better idea of what we should interpret as well as and get an idea about how technology co-shapes the self on a microperceptual and macroperceptual level.

Philosophical evidence tells us that there is a gap in Cartesian dualism, but as well in conscious-unconscious dualism. Both theories lack the explanatory power for the interaction between inside and outside. So instead of focusing upon the question how the brain creates (the illusion of) consciousness, we might better focus upon what the sources for a mental state are. To put this focus in perspective: where Cartesian dualism focus on a centre self in consciousness and conscious-unconscious dualism focused on a centre self in the brain, we should not focus on a centre at all if we want to understand the self. In addition philosophical insights do suggest that the concept of consciousness that is used by neuroscientists is too superficial. By not specifying between for instance a phenomenal and reflective consciousness, neuroscience can too easily generalise.

When we accept that the self is partly based upon underlying mediations, it is hard to make a distinction between the internal and external world. The concept of an essence is as well hard to maintain, since it is questionable what this essence might be and why that essence is so special that it cannot be affected when it is no longer isolated from the external world.

From both philosophical as scientific insights we can see that both the body and the environment are of huge importance for the constitution of a self. The body connects the outside world with the brain. Not as a puppet, but as constituting factor for the brain. Therefore we can break the wall that neuroscientists made between consciousness and the brain and look at how both affect each other. Therefore consciousness by itself is not the self, nor is it anything more than an epiphenomenon of brain activity. In fact, consciousness can have control about actions. Therefore it is not that easy to dismiss free will or freedom.

So we can still ask whether someone has freedom or not, but eventually we should look at what the conditions of possibility or sources are for the development of freedom. But in order to do this, we should use a concept of the self that entails a form of reflection and one that is anti-essential. For the self we can think of conscious constitution and unconscious constitution. I will present a possibility for how this can happen. But to get to such a concept we have to look at an anthropology, one that deals with a non pre-existing self and one that considers the importance of underlying (technological) mediations and the body in how a self and subsequently freedom can be constituted by means of the interaction between the self and the environment.

Chapter 3

Plessner and the Emerging self: how the non-essentialist self develops freedom

The first chapter focused on which neuroscientific experiments are used for denying the notion of free will. The second chapter focused on the unlikelihood of the claims about free will, because the premises about the self are questionable. This chapter focuses on defining a different concept of the self and of freedom in order to inform the debate around free will differently than the conscious-unconscious dualism does. I will propose an anti-essentialist concept of the self that is based upon Helmuth Plessner's anti-essentialist philosophical anthropology. In my view Plessner's anthropology will have a surplus value for the debate around free will. In the anti-essentialist anthropology we will find how a self comes into existence and how a self is always in a state of becoming. This is different from the idea that a self is essential and is in a state of being. Anti-essentialism relates to essentialism as follows: from the perspective of essentialism there is, prior to existence, a set of attributes necessary for the idea of human being, such as free will or a self. On the other hand, anti-essentialism entails that such attributes are pre-given to existence, but that these have to be developed during existence. The consequence for the debate is that there is no fundamental distinction between inside and outside from the start. The outerworld is even a necessity for how a self comes into existence. Another surplus value to the debate is that Plessner offers us the idea of a relation to oneself. Where neuroscientists such as Swaab focus on that we are our brain, Plessner would state that we have a brain as well. This is called double-aspectivity. In Plessner's philosophy this does not only apply to the brain, but also to the entire body and the relations a self has with the world. There is always a double-aspectivity that makes sure that people are always in distance from themselves. This distance involves that a self does not easily coincide with something. The consequence for the debate around free will is that we should not consider the self as only its consciousness or short-term intentions. The last surplus value to the debate we can derive from Plessner's anti-essentialist philosophy is to combat the false contradiction between determinism and freedom. In chapter two we have seen that the conscious-unconscious dualism implies a strict demarcation between freedom and unfreedom that is based upon the essential property of free will. Within an anti-essentialist approach freedom is not something pre-given. Freedom has to be developed by the interaction between the biological structure and the natural, cultural and technological environment. These pre-given structures are needed to get a certain understanding of the world. The self is shaped in relation to these pre-given structures. Thus a self does not have an influence on these pre-given structures, but from his understanding of the world the self learns how to deal with these pre-given structures in terms of his actions. Insights in the relations a self has is considered to be self-knowledge. It should be noted that self-understanding could be in itself problematic, when the first-person experience is false or falsely informed. However, for the purpose of my argument I will not elaborate on this problem in this chapter, but I will briefly come back to this problem in chapter four. The consequence for the debate around free will is that we should not longer consider the distinction between having freedom or unfreedom, but to which extent

a self is capable of developing freedom. Another consequence is that we should consider free will as two separate notions: freedom and will, which both have to be developed.

However, Plessner's anti-essentialist anthropology can only describe reasons for why we experience freedom, but it cannot tell us how we experience freedom. For instance, Plessner does not explicitly mention a difference between short and long-term intentions. This has consequences for the phenomenological experience of intentions; Plessner's anthropology cannot describe it. Therefore I will expand Plessner's anti-essentialist self with Slors's idea about short and long-term intentions.

Anti-essentialism involves that a self has to emerge out of its relation with the world. Thus the production of the self depends on its interactions. The trivial part is that, when there is no essence that makes decisions, initially there is nobody that gives direction to how the self is produced. Therefore the key-influences for the production of the self are external. This, however, does not mean that someone cannot be free. It is the aim of this chapter to show how someone can be free while being shaped by his environment. Before I elucidate this I will first make a few steps. The first step we have to make is to look at what kind of relations a human being has with the world. This means that we should look at how a human can relate to the world before culture intervenes. This will lead to a certain anti-essentialist concept of the human being. The second step is to look at what this concept of man means for considering the self. From the anti-essentialist notion of the self we will subsequently derive a different notion of freedom. If the cultural and technological environment is of importance for the creation of a self, this will be of great importance for the understanding of freedom to someone. My claim is that freedom is co-constructed along with how a person learns to see the world and constitutes himself in terms of habits, goals, ambitions and ideals. Thus instead of looking at freedom as something absolute or absent, we will work towards an idea of developing freedom. At the end of the chapter I will show how this anti-essentialist self informs the debate around free will differently.

3.1 The world comes first

Plessner had a background in biology and this had an influence on his philosophy. He used the empirical world as his starting point. From that point he described how different biological organisms can relate to their surrounding, or more precise; Plessner was interested in how an organism can create a unity in relation to an (initial) opposing chaos. Plessner focuses on how an organic life form comes into existence, in its relation to the world and itself. It is important to note that Plessner postulates a *material a priori*. This means that the environment influences the senses before reason interferes in interpreting the sensory information. This entails that the senses are not a passive transmitter of sense-impressions, but that they have a constituting part in our perception and our relation to the world (Kockelkoren 1992). This can be illustrated by the example of seasickness. Most humans are born on land and have learned to experience the ground they stand on as solid. When they go on a boat to the open sea, the surface underneath them is dynamic and subsequently can result in seasickness. This can as well happen the other way around. For example, some members of a tribe of sea-nomads live their entire life on sea. When a member of that tribe goes on land, he or she can become 'land sick' (Templar, Leith & Allen 2011). The material a priori is as well the notion where to start looking for an anti-essentialist self. The material conditions influence how a self eventually understands the world.

On a most basic level Plessner already talks about intentionality; a directedness to the world (Kockelkoren 1992 p. 70). Plessner uses the concept of boundary realisation (Grenzstellung) as a way in which organisms by their type of organisation can relate to their surroundings, as an (basic) act of intentionality. He states that when certain conditions, like intentionality, are met; one can speak of an intentional position in the world. Plessner calls this positionality. Positionality describes how organisms relate to the world based on their type of organisation (Plessner 1965). Boundaries explain the relation of an organism to the world. Plants have an open boundary and therefore an open organisation. Plants are open to the world and become part of it.

Because plants do not have an actual boundary, they do not have a centre from which they operate either (Ibid.). Animals, on the other hand, have a closed boundary and therefore a closed organisation. This boundary is their body. And because of this boundary they have a centre. Subsequently, we can speak of a centric positionality (Ibid.). Human beings, however, are both open and closed organised. This creates an eccentric positionality that literally means "positioned out of centre".

3.2 The Human Being And Its Eccentric Positionality

In this section I will elaborate on the positionality of human beings. The goal is to describe how humans can relate to the world independent of their historical and cultural environment. I will 1) turn to the concept of boundary realisations, 2) consider how the positionality unfolds itself and 3) turn to the three principles of eccentricity: *Natural Artificiality, Mediated Immediacy* and the *Utopian Standpoint*.

In order to describe how humans act, Plessner uses the concept of *boundary realisations*. Where plants are completely subject to its environment for the boundary and where animals cannot change their boundary, human beings have a more complex type of boundary realisation. Humans can set these boundaries themselves. Plessner calls this *self-boundary realisation* (self-begrenzung) (Plessner 1965 p. 289). With the eccentric positionality, the human being an open and closed organisation, but this is never is this simultaneous. The self-awareness, the experiencing of experiences and the freedom to act gives human beings the ability to create and set their own boundaries. Such a boundary directly imposes a dual character. By setting a boundary it isolates one side from the other side of the boundary (Kockelkoren, 1992, p58). By setting new boundaries there is a new position to relate to and with that fixation new relations and consequentially essences (of relations) start to exist. However, the boundary does not fixate the human being, because humans are also open to the world. Neither can we speak of a centre.

Instead the positionality of humans let itself explain in a threefold: A human *is* a body, is *within* that body (referring to the psych) and *outside* that body (as a point of reference). This threefold corresponds with the three perspectives a human being can adopt. Therefore Plessner states that the world appears in three different spheres: The Innerworld, which corresponds with the psyche, the Outerworld, which corresponds with physical objects, and the Coworld, which corresponds with the world of the fellow human beings (Kockelkoren 1992 p.72-73). It should be noted that the distinctions between, among others, the Innerworld and Outerworld is different from the inside-outside demarcation as has been criticised in chapter two. Where in dualism there is a fundamental demarcation between inside and outside, Plessner's distinction between the spheres is merely descriptive. The spheres influence each other on a basic level. The Outerworld and the Coworld affects how the Innerworld comes into existence. Due to the possible changes in the Outerworld and the Coworld, the Innerworld consequentially has a dynamic character. (Kockelkoren 1992). This is in line with the anti-essentialist principle that the environment necessarily forms the Innerworld.

Thus the eccentric positionality entails this threefold. Therefore a human being does not fully coincide with one of the spheres. Instead humans have a double-aspectivity. This can be considered as *being* a body and *having* a body. The first one involves how a human is his biological body, while the latter one shows the relation a human has to its body. Consequentially, humans are always a spectator of their own behaviour and thoughts: they can take distance from themselves. For instance, they can experience their (bodily) experiences. In addition humans do not coincide with themselves, since someone is always a stranger in relation to himself. This double-aspectivity already shows a difference with the conscious-unconscious dualism. In case of this dualism there is a focus on what we *are* (such as a brain), but there is not an opportunity to reflect upon what we *have* by objectifying ourselves. Concerning Plessner we need to consider the human being as a psychophysical unity (Plessner 1965 p. 292). This entails that a human is interdependent on its body and mind in relation to the world.

From the eccentric positionality three principles that explain the human nature follow: *Natural Artificiality, Mediated Immediacy* and *the Utopian Position*. These principles deal with the criticisms

that are formulated against the self that coincides with consciousness, such as the idea of immediate access to self-knowledge and the idea of a pre-given self.

Natural Artificiality involves that human beings have to create themselves and give meaning to things by and simultaneously while relating to them. As already said, the human being is both centric and eccentric, but those two do not fall together. Consequentially, a human will always be a sort of someone else in relation to itself (Plessner 1965). Consequentially human beings are always out of balance and this creates an urge to overcome this balance, which is between having and being (a body). This balance cannot really be overcome, because there cannot be a complete unity. Instead there is a deficiency. People can only attempt to overcome this deficiency by artificial means. Therefore people are always looking forward in trying to find a balance. Plessner calls this need to find a balance supplement-neediness (Ergänzungsbedürftig) (Kockelkoren 1992 p. 75). Therefore humans are by nature instable. Humans are deficient and by nature not determined, and as a consequence the human has no natural state; there is nothing natural (independent of culture and history) about human expression. Therefore humans have to express themselves within and by means of culture. This is what makes humans artificial by nature. I want to emphasize that this supplement-neediness is not an essential characteristic of the human being. Rather it is a consequence of how humans relate to themselves. Natural artificiality shows that a human needs its culture for understanding and expressing himself. The principle of the natural artificiality is also relevant when considering a pre-given self. In Plessner's work we will not find one, because from the very beginning a human depends on its body, the environment and the possibilities to relate to the world.

The mediated immediacy explains how the relation of people to themselves and their world is always dependent on culture and history (Kockelkoren 1992 p76). This principle also shows Plessner's idea of double-aspectivity: on one hand humans are directly in relation with their surrounding due to there open organisation. On the other hand, the relation is mediated by artificial constructions due to their closed organisation. In the dynamic processes of relating to the world, the world gains an objective character (Kockelkoren 1992 p. 76-77). This objective character is artificial, consequentially human beings understand the world and themselves by an indirect directness, but also shape their world and themselves indirect. The human being is simultaneously a means and an end (Kockelkoren 1992 p. 69). This is in line with the criticism of chapter two against the direct access to private knowledge, because people learn to understand the world indirectly. That knowledge is artificially constructed and cannot have its origin from within the person. The principle of the utopian position let itself describe in the following words:

"Like the eccentricity does not allow a fixation of its own position (although it demands a fixation, but cancels it at the moment of the boundary realisation), so it is the human being not allowed to know where he -and the reality that answers his eccentricity- is" (Plessner, 1965, p342, translated by the author).

So the human being is from itself not a fixed being and has no pre-constructed identity. Due to the anti-essentialist principle there is no pre-given self. The eccentric position ensures that humans are always in a distance from themselves and subsequently always deficient. Therefore humans try to overcome this distance and are in a process of becoming in which they try to complete themselves by fixating themselves. However, at the time someone fixates himself by means of a boundary realisation, that person becomes that boundary and subsequently has to relate to that boundary. Now that boundary is no longer the attempt for fixation, but the new starting point. Thus the deficiency remains. Therefore humans will never find a true balance and all of the attempts to overcome their deficiency are part of their history. This gives people awareness of their futility and subsequently awareness of the futility of the world.

Together with the supplement-neediness, Plessner's anti-essentialist concept of the human being focuses on a human being that is constantly in a state of becoming, instead of merely being as is the case with a pre-given self. Additionally this shows how humans are actually subject to their

culture and history. They are doomed to relate and to be influenced by their cultural and material environment. Hence, the environment is of great importance to how a human being is constituted in a specific time and place. This, however, does not tell us how an anti-essentialist self is free when it is subject to external influences. To understand this we first have to look at what a self entails in Plessner's anti-essentialist anthropology.

3.3 Plessner's self, the becoming self

In the previous section about anthropology we have seen several characteristics of human beings independent of their historical and cultural context. When considering the self we have to look at the same charac'teristics. According to Plessner we should look for the foundations of the self in external factors, such as people and technology, and how those factors relate to our biological pre-given dynamic structure. While relating to the body as an object, the body and thus the biology becomes part of the external world as "Ding unter Dingen" (Plessner 1965 p. 294). I want to discuss four of these human characteristics. Firstly, I want to look at how spheres of the Innerworld, Outerworld and Coworld are influencing the constitution of the self. Secondly, I want to look at underlying mediations for the consitution of the self. Thirdly, I will consider why we cannot fixate a self due to the dynamic character of the self. Fourthly, I want to look how a self relates to his determinants when considering the production of a self.

First, in Plessner's three spheres we find a personal hermeneutics that include both the technological and bodily aspects of understanding the world and the person itself. In other words: how technologies are underlying mediations in our understanding of the world.

Plessner states that there are three descriptive spheres from which the anti-essentialist self is formed and understands the world. Those are the Innerworld (*Innenwelt*), the Outerworld (*Aussenwelt*) and the Coworld (*Mitwelt*). These three spheres merge together in *the horizon of understanding*. This horizon involves that the world can only be understood in the extent to which the world is and has been presented to a subject (Kockelkoren 1992 p76).

These three spheres are as well the place where humans derive self-knowledge. A self can distance itself and get insights in the personal relations to the three different spheres. The information about these relations can be considered as self-knowledge. It should be noted that this self-knowledge is not infallible, nor immediately accessible. One way to consider the fallibility is to look at the mechanisms of memory. Research shows that memory in itself cannot always be trusted (Abe et. al. 2008). It is however beyond the scope of this thesis to consider how false memories influence our self-knowledge. We can derive parts of the self from Plessner's hermeneutics. By making a distinction between three spheres we see several sources for the production of a self. Some of these sources are physical objects, including the person's body. These are found in the Outerworld. Other sources are culture and the social domain. These domains affects how someone positions himself. According to Plessner the social domain is necessary for a person to have the idea of being an individual. These cultural and social influences are be found in the Coworld. The Innerworld is a product of language and underlying technological mediations. Since language is a public discourse, the Innerworld is shaped by this public domain. Language allows someone to reflect upon himself and form intentions. This is where the psychological reality comes into existence. This comes into existence because a self is able to reflect, observe, remember and create affection. Subsequently a person is able to think about his relations to the world and can form ideas about how he wants to position himself. With the interaction of those three spheres in mind, we should not haste and fall for the same fallacy as some neuroscientists by forgetting the body and how someone is as well a brain. This is emphasized by the following example: we can think of a musician that by years of practice learned how to master his instrument. When the musician plays, the musician does not do this consciously, because by overthinking the training of the musician's body is impaired (just like how overthinking the tying of shoelaces makes it more difficult to tie a knot). Rather the constituted action is a symbiosis of the musician's body and years of conscious training. The same can be said about a football player. He might not always shoot a

ball consciously, but the years of practice helped him to actually hit the football a certain way. Thus even though a person is not acting consciously, or consciously forming intentions, he can still identify himself with its behaviour, because he can identify with the way he constituted himself. This shows that the constitution of the self is dependent on underlying mediations.

Secondly, while looking at underlying mediations we have to consider the two principles of eccentricity that allows us to see how humans relate to underlying mediations: the natural artificiality and the mediated immediacy. These two principles entail that human beings have to create themselves and give meaning to things by and simultaneously while relating to them and moreover how the relation of people to themselves and their world is always dependent on culture and history. So there is no essence that influences the path of how someone is constituted from the start. Rather a human being is subject to its semiotic field, culture and social surrounding. When we acknowledge that there is nobody that can transcends its era and culture, people cannot do otherwise then rely on their own underlying mediations (Kockelkoren 2009). In contrast to the modernist view that a self is pre-given, the anti-essentialist self is a notion that depends on multiple agencies, such as technical and other cultural mediations (Ibid.). The Innerworld depends on mediating technologies before the Innerworld can even exist (Ibid.). The expression and constitution of the Innerworld depends on technologies, especially nowadays in times of social media where self-expression takes the form of a shopping-window where attributes of the self such as musical and other preferences are stalled on personal webpages (cf. Kockelkoren 2009). The technological pre-construction shows that there is no innate original self and therefore it is impossible for someone to (completely) rule its own production of self. Instead the technological possibilities are asking people questions in which relations and subsequently a self starts to exist (cf. Taylor 1989).

Thirdly, a self cannot be fixated. The production of the self already implies that the self is changing; the self is instable. We can use the idea that the self is the relation to its desired unity, which is created to an opposing chaotic world. This unity is never obtained, but always an ideal situation, because relations are never fixed. This can be explained when we look at Plessner's idea about the dynamic trait of humans in his concept of power. In this context power should be understood as a personal tool to act with and something that follows from of the eccentric positionality. The reflective component of the eccentric position creates the power of possibilities (Plessner, 1980, p190-200).[1] Humans relate to these possibilities and by y means of reflection can act to fulfil them. This is a basic act of intentionality, the act of boundary realisation (Kockelkoren 1992 p.72). In my understanding this involves as well that the person has restricted himself with that boundary realisation, because the person is not able to fulfil any of the other possibilities. This can be because of practical issues, but as well when realising a boundary that person becomes that same boundary and subsequently he has to relate to the world from that boundary. In that sense the person has changed, he understands the world slightly differently. From this new position he starts anew relating to the world and this goes on every time a person sets a new boundary. Thus when somebody acted, he relates differently to the world and to him or herself. This has an influence on a subject during an experiment and in theory this means that the setup of an experiment can have an influence on the eventual outcome. Thus external influences are of key importance in the production of the self, but this does not mean that we are not free.

Fourthly, to understand this relation to the external influences we have to make a distinction between determinants and determination. Determinants pre-construct conditions of possibility. Determination involves that a certain possibility is bound to happen. Determinants can be found in the Outerworld and Coworld. For that matter, determinants are the human body and its material and cultural environment. We should consider how these determinants influence the production of an anti-essentialist self and if a determinant necessarily determines our behaviour. A determinant makes a self move in a certain direction by pre-constructing the conditions of possibility someone can

[1]It should be noted that my interpretation is based upon's Kirsten Pols her (unpublished) article: `http://www.academia.edu/816399/Strangely_Familiar._The_debate_on_multiculturalism_and_Plessners_philosophical_anthropology`

relate to. Thus determinants do not determine our behaviour, but determinants rather pre-construct our behaviour. Thus determinants pre-construct the conditions of possibility and subsequently the relations a human can have with these determinants. This can be elucidated when we consider the idea of double-aspectivity in which there is a relation to being a body and a relation to having a body. This entails a relation to the self that is not there in Wegner's idea of the self. For instance, in the neuroscientific domain there is a focus on being a brain. According to Wegner, Swaab and Lamme the brain is not only a determinant, but it determines our behaviour. The double-aspectivity shows that next to being a brain, someone has as well a brain. That ensures that someone has a relation to his own pre-structured conditions of possibility. This self-relation is due to the eccentric positionality in which a person can distance itself from the determination and the subsequent possibilities. The matter of distancing is based upon the understanding a self has of his relations. Thus an anti-essentialist self can only act to the extent he or she understands the world. This understanding of the world is dynamic and can grow. In the case where a determinant pre-constructs a single possibility or the anti-essentialist self can only understand a single possibility, his determinant determines the behaviour of a self. Aside of such determinations a self can distant himself from his conditions of possibility and reflect upon it. Thus a self does not rule its own production of the self, but the self has the possibilities to actuate his own behaviour within his pre-constructed conditions of possibility.

I acknowledge that the above-presented perspective is not convincing for proponents of determinism. Determinists might still argue that the conditions of possibility we experience determine our actions as well. This is actually a matter of adopting a perspective before the interpretation of phenomena. Thus opposed to the notion of the self that is focused on being a brain that translates the self into a passive entity that undergoes the determining effect of the non-conscious brain, is Plessner's notion not merely a reduction to consciousness. Instead it is a relational network of consciousness, the brain, the body, language, culture, the social domain and technology. There is however no centre or essence where we can find the self. Instead we need to understand the self as the relations a human has to the world and its body as part of the world. However, the self cannot fully coincide with those relations, because of its double-aspectivity. This involves that the self is the relations to the world, but at the same time distances itself from those relations due to its eccentric positionality. Thus a self is in some extent the relations it has to the world and himself. Therefore self-knowledge are insights in these relations.

Self-knowledge is a prerequisite for not being determined. However, such knowledge does not guarantee freedom, because self-knowledge can be false or incomplete and can lead to unrealistic intentions.

An anti-essentialist self does not coincide with his relations and tries to coincide by means of an active reshaping process. Therefore unity is at stake every time when a boundary realisation is practiced. However, being active is not limited to conscious actions and interpretations. Because a self cannot be in control of its own production, the reshaping has also to take place without being aware of it.

Plessner's self is one that is constantly changing due to the lack of finding a balance and the need to overcome his deficiency. Thus the self is dynamic. In contradiction to Wegner's and the modernist idea of a fixed, pre-given self is Plessner's self one that is in a state of becoming. We should look for a concept of freedom from this state of becoming and from the vantage point of a constituted self.

3.4 Freedom: technologically and socially mediated habits, ambitions and goals

In this section I will discuss how freedom can be considered from a dynamic, anti-essentialist notion of the self. I will do this by showing how technology helps to look differently at oneself and how technology can help to achieve our goals and ambitions by creating habits. Subsequently I will show how these goals and ambitions are constituted and justified by involving the social domain. For Plessner, freedom is something that follows from the eccentric position. By this self-relation people

can reflect upon their future acts, but as well upon their past acts by considering what they might have done differently. This however is merely an ontological idea of freedom and too narrow to consider an empirical idea of freedom. Therefore I will supplement Plessner's idea of the anti-essentialist self with Slors's (2013) idea of short and long-term intentions in terms of habits, goals and ambitions. I will show that this idea of freedom is compatible with Plessner's anthropology and hermeneutics. For this we need to keep in mind that Plessner's self is dynamic. For the concepts of habits, goals and ambitions I will use Aydin's (2013B) work.

For a notion of a developing freedom we have to accept the paradox that in order to have freedom, there has to be restrictions. These restrictions mean that a person needs to have relations to the world. Since there is no pre-given self or an essence, somebody has learned to understand the world in a specific way that depends on its historical and cultural environment. And because there is no pre-given self there is as well no pre-given freedom or unfreedom. Instead we should consider an idea of freedom that is dependent on the context. This context involves determinants such as the biology, the material world, the social world and how a specific self is constituted in relation to these determinants.

By considering the self we came across a few interesting matters. If the production of the self is dependent on its biology and material and cultural surrounding then the self is subject to change if some of those dependants change. Subsequently the self is instable and tries to become stable by trying to create unity. Thus Plessner's self is bound to his era and culture, in which technologies are underlying mediations for the constitution of a self (Kockelkoren 2009). The self emerges from those mediations and derives knowledge about the world and itself from the three spheres of the Innerworld, Outerworld and Coworld. Consequentially, a person can only form intentions to the extent that he understands the world. Therefore we cannot speak of absolute freedom or no freedom at all, but we have to look at what kind of freedom someone develops. Hence, we have to look at how freedom comes into existence and how it is realised in terms of the constitution of a self.

We have seen that the self is in a state of becoming. A human being is always deficient and tries to overcome this deficiency by trying to create unity. This attempt to create unity depends on the cultural and material environment. Plessner states humans always consider the future for how they will act (Kockelkoren 1992 p 85). How a self realises that future act depends on how the self's understanding of the world is shaped by the historical constitution of the self. The ontological condition is that humans have an idea of a future. Thus Plessner describes a reason for why we have the experience of a future, but he does not explain how we experience that direction towards the future. Therefore, Plessner cannot explain how we experience freedom. In order to explain how we experience the direction towards the future and subsequently freedom, I will use Slors's idea of short and long-term intentions. In my view these two are compatible, because an intention is necessarily directed towards the future. Neither does the idea of short- and long-term intentions contradict Plessner's anti-essential anthropology. This experience of the direction to the future involves that someone has a certain (long-term) goal or ambition about who he wants to become or how he wants to act. When this behaviour corresponds with a long-term goal or ambition, we can say that someone acted freely. This involves that for such freedom a person needs to know where he stands in the world. He needs to derive self-knowledge from the relations he has to the world. Thus we should not consider freedom as a metaphysical property, but as a real-life experience. Therefore we should look for freedom when a self is already constituted. This can be illustrated by the technological example of playing a videogame.

Let's assume that you have the goal to finish a new-bought action game. In order to realise that goal you need to learn how the game works and to create habits. You need to learn the game concerning the controls by pressing buttons you have to press, and the computed physical possibilities of the character that you are controlling. For instance you might be limited in jumping a certain height or distance. This is where the environment of the game makes its appearance. There can be obstacles, but enemies as well. Therefore you have to learn what the enemy's range of action is and how you can eliminate the enemy. By learning the possibilities of your own character in relation to the (computed) environment, you can create habits. These habits involve pressing the right buttons

at the right time. Eventually these habits are necessary in order to 'survive' in case where there is a lot of action and you do not have the time to make conscious decisions. Thus you have to master the situation. This will (hopefully) lead you to finish the game and realise your goal. Thus (unconscious) habits are necessary for realising the earlier set goal. There is interplay between goals and habits. The goal makes a self form habits. The better the self can form and cultivate that habit, the better the self can realise its goal (Aydin 2013B). When we look at the example of the videogame, the person would not be able to finish the videogame when he or she is not cultivating his or her habits. This can happen when someone has not played the game in a while. In addition habits can (initially) prevent us from realising a goal. This is the case when an existing habit contradicts the habit to be formed. For instance, in a different videogame the controls can as well be different. When a certain habit is already formed by means of an earlier videogame, then the existing habits will (initially) not help to finish that game. What this example shows is that habits are part of our behaviour. Habits make us unconsciously act in order to realise a goal or ambition.

However, the goals or ambitions do not have to be a technological end. A cultural goal or ambition can be realised by means of technology. For instance, my long-term ambition is to graduate. I have to realise this ambition by writing a thesis. This writing is done by means of my laptop and even pen and paper. To understand how such ambitions are justified, we need to move the social conditions for the constitution of a self.

In Plessner's hermeneutics we can find how someone necessarily positions him or herself in relation to others. This can be found in the double-aspectivity in the Coworld in which someone considers him or herself as an 'I' and additionally considers him or herself from a 'We'-perspective (Plessner 1965). This 'We'-perspective can be seen as the perspective of other fellow human beings. For the sake of my argument I will call this perspective the community. In the community we can find ideas about values and ideals that are worthwhile (Aydin 2013B). By positioning ourselves to those ideals we can adopt some of those ideals and turn them into long-term intentions, such as finishing a thesis. On the other hand certain ideals and values can as well help us forming long-term intentions for creating habits. For instance, because the value is to not litter our environment, I throw my empty coffee cup in the bin instead of littering the environment. Thus when our behaviour corresponds with our long-term intentions, we can speak of a successful constitution of the self (Ibid.).

Consequentially this means that the person is free (Ibid.). When behaviour corresponds with long-term intentions that are informed by the ideals of a social environment, we can speak of a successful constitution of a moral self (Ibid.).

The last claim does have an impact on how to view morality because it implies that the moral constitution of a self is dependent on the criteria of the community (Ibid.). For instance, (the historical) Jesus would be considered immoral for opposing the ideals of the Romans (cf. Ibid.). However, it is beyond the scope of this thesis to solve the issue whether someone can be moral if he does not adopt the ideals of the community as being worthwhile.

3.5 Shifting the debate around free will

The purpose of this chapter is to inform the debate around free will differently from how the conscious-unconscious dualism informed the debate. By presupposing an anti-essentialist self there is a shift in the relations between free will, the self and consciousness. In chapter one I showed that in conscious-unconscious dualism the self coincides with consciousness and that free will depends on the role of consciousness in short-term intentions. In chapter two we saw that the postulation of conscious-unconscious dualism informs the debate in a certain direction. In the debate the self is depicted as an independent entity that is not influenced by the external world. In addition, the self and free will are implicitly considered as unchangeable essential properties, which subsequently leads to a black-white distinction between freedom and unfreedom. Thereafter the self does not really exists when consciousness does not have a role in our behaviour. Instead actions are ascribed to the brain. Thus the self is reduced to being a brain. Consequentially it misses the idea of self-understanding and

isolates the self (cf. Procee 1991 p. 91). In other words, in neuroscience the self is objectified and the self's historical and cultural conditions are not considered.

Anti-essentialism involves different relations between the self, consciousness and free will. Consequentially, it informs the debate around free will differently.

Consciousness is part of the self, but the self does not fully coincide with consciousness. Free will, for that matter, does not have to be initiated by conscious-short term intentions. The self has to be the originator of the actions, but unconscious processes can as well eventually initiate these actions.

Freedom is the extent in which a self is able to realise his ideals or goals. A self is free when these unconscious processes are in accordance with the goals or ambitions a self has formed. Thus a self does not stop existing when a determinant pre-construct conditions of possibilities or when the brain initiates behaviour. In the next chapter I will discuss what the neuroscientific experiments by Libet, Nisbett and Wilson and Wegner mean when we presuppose an anti-essentialist self.

3.6 Chapter Conclusion

The anti-essentialist self from the vantage point of Plessner's anthropology overcomes several of the criticisms that are mentioned in chapter two. These involve the demarcation between the Innerworld and Outerworld and the idea of a pre-given self. The notions of a material a priori, eccentricity and the idea that a human is a psychophysical unity solve these problems.

The material a priori for instance, states that a human can only become by relating to the world. In fact the person cannot do otherwise since initially there is no point of reference to act upon. There is nothing inside a person that from the start deliberately influences the path in the production of the self. Thus the self has to emerge from its environment and is therefore subject to its temporality and spatiality by positioning him or herself opposed to that. In Plessner's hermeneutics we found that this environment includes the social and cultural world and the body as well. Thus in that sense the self should be found in the person's relations to its world, but as well to its relation with itself by objectifying parts of himself. The ability to objectify a part of oneself ought to be found in the concept of eccentricity. Eccentricity gives an extra dimension to the neuroscientific claim that we are our brains, namely that we have a brain as well. The consequence of this extra dimension is that humans do not coincide with themselves, because they can distance themselves from their (direct) experiences. In theory this involves that a person can as well objectify unconscious processes and knowledge about the self. This opens doors for making long-term intentions, such as ambitions and goals, but forming habits as well.

Insights about the relations one has to the world by means of objectifying them are part of the person's self-knowledge and are essential for eventually being free and practice that freedom. These insights make it possible to see one's relations to the world and how he or she can intervene in them. Thus freedom is found in the possibilities to act and those possibilities depend on the historical constitution of the self and the present material, cultural and social context. Thus freedom is something that can be practiced in a certain extent and heavily depends on the person's relations to the world and not something absolute.

We saw that due to constant change in relating to the world, a self is dynamic. Both conscious and unconscious processes are in Plessner's philosophy a part of how humans relate to the world at a specific time. Thus instead of an essence from which the human being acts, conscious and unconscious processes continuously reshape the personal relations. Of course, these relations are not changing wildly or completely, but often just slightly. This insight is interesting when we consider experiments.

The setup of an experiment can have influence on how a subject understands the experiment, but it can as well affect how a subject experiences the experiment. This might affect the eventual outcome of an experiment and therefore it is important to take this constitution in mind while interpreting the experiments.

Some critique is necessary towards Plessner's hermeneutics. In Plessner's hermeneutics it remains unclear what "answering to its biology" actually entails. We can see this as a deficiency in Plessner's

philosophy. I would rather propose to "fill" this deficiency. We can do this by including scientific information about a person's biology from, among others, neuroscientific experiments.

Chapter 4

Reinterpreting Libet, Nisbett & Wilson and Wegner

The goal of this chapter is to reinterpret the neuroscientific experiments that were conducted by Libet, Nisbett and Wilson and Wegner. To be more precise, I want to nuance the conclusions that some neuroscientists derive from the experiments in order to give a more detailed description of how we can experience ourselves when we consider a relation to the self. In addition neuroscientific experiments can give us insights in how that self-experience can be subject to deceit.

In the first chapter I discussed how the combination of Benjamin Libet's experiment about readiness-potential and Daniel Wegner's I-spy experiment results in a 'toxic cocktail' (Slors 2012). This cocktail point out that the self is not the originator of its actions and that the self makes up reasons for its actions. Because conscious thoughts are not the cause of our behaviour, neuroscientists such as Dick Swaab (2010) and Victor Lamme (2010) claim that we are not in control of our behaviour.

In chapter two we saw that the claims of those neuroscientists are based upon a modernist assumption of the self. To combat the modernist idea, I have presented an anti-essentialist concept of the self that is based upon Plessner's anthropology in the third chapter. This concept of the self is based upon an anti-essentialist anthropology in which we saw how a self can emerge from its biology and cultural, social and historical environment. The anti-essentialist self and the subsequent notion of a development of freedom in terms of habits, goals and ambitions will be the base for putting the experiments in a different perspective.

In this chapter I will first show what kind of aspects we should focus on before we (re-)interpret the neuroscientific experiments of Libet, Nisbett and Wilson and Wegner. These aspects are habits, long-term intentions and the relation to the self. I will show that the experiments do not lead to a rejection of free will, because the experiment do not tell us whether a person was not able to realise a long-term intention. Furthermore I will shed a different light on confabulation by showing that self-knowledge is not something pre-given, but is something that has to be developed.

4.1 What to presuppose before interpreting neuroscientific experiments

In chapter two we saw that among others Wegner had an assumption of a self that was based upon a consciousness-unconsciousness dualism. We saw as well that this form of dualism is not tenable. Therefore we have to think of what to presuppose before we reinterpret the experiments of Libet, Nisbett and Wilson and Wegner.

The major presupposition is an anti-essentialist self. This results in the idea that the self is in some extent the relations to the world and not merely consciousness. Subsequently, behaviour is not initiated from within, but a result of the interaction between a self and its environment. Plessner's

anti-essentialist self shows us how someone can have a relation to itself by being and having a brain. This relation is compatible with the distinction between short and long-term intentions. Therefore a self is able to create ambitions and goals. Along with these goals, the self develops habits that help to realise these goals. Freedom for that matter is the extent in how a self is able to realise those goals.

The presupposing of an anti-essentialist self entails that we should look at the environment and thus technology. Thus if we want to consider the experiments, we have to look at how the technological conditions constitute the subject in the experiment and not only look at how to give an exact description of our experiences to neurosciences. This has an effect on how to consider freedom.

If freedom depends on the individual relation to the world and the constitution of a self depends on how technology constructs the person's relation the world, then freedom depends in some extent on technology. Thus instead of looking at freedom as a black-white distinction between freedom and unfreedom we have to look at freedom as how and to which extent we can realise intentions (Aydin 2013B). In order to interpret whether the experiments tell us something about freedom, we need to consider how habits play a role in our experience of free will. The first step to make is to reconsider the relation between consciousness and unconsciousness.

Based among others on Baumeister's work on the interaction between consciousness and unconsciousness in decision-making, Slors states that we can program ourselves. According to Slors we can use our consciousness to make long-term intentions. In chapter three I showed that these long-term intentions can form habit. Thus long-term intentions can cause behaviour that later on is initiated by the (unconscious) brain. This, however, does not explain why we identify with our actions.

In chapter three we saw as well that we can identify with our behaviour if it corresponds with how we know ourselves and that we are able to act freely when our behaviour is corresponding with our long-term ambitions or goals. Furthermore, we saw that humans can have relations to themselves because of their double-aspectivity.

Thus for considering the experiments we should consider how habits play a role in realising our long-term intentions, whether the experiments do tell us anything about long-term intentions and what the self-relation looks like in those experiments.

4.1.1 Reinterpreting Libet

In the first chapter we saw that the main goal of Benjamin Libet's experiment was to look at three existing moments in time: the readiness-potential, the moment of awareness and the physical execution of an act. Libet found a discrepancy in time between the readiness potential and the moment of awareness. The readiness potential was prior to the moment of awareness (Libet 1983).

In chapter two we saw that many neuroscientists see the moment of conscious thoughts in Libet's as the self. Thus if the readiness-potential, initiated by the brain, was the triggering cause, then the self did not had anything to do with the execution of an action. Due to this lack of direct control about the action, some neuroscientists see this as a reason to deny the existence of free will. (Swaab 2010, Lamme 2010, Wegner 2003) However, in chapter two we saw as well that this notion of the self is not tenable. The anti-essentialist self presented in the third chapter sheds a different light on the experiment. I will argue that the experiment does not have much to do with freedom at all, but that it helps us to see how our unconscious brain and our consciousness work together. Therefore we have to look at the self and at short and long-term intentions.

Concerning the self, we see that the experiment isolates parts of the self, such as consciousness, brain-states and the actual directness to the world. In that sense the self is objectified to being a brain. I argue that we should as well consider the relation of having a brain. This will show that it is still possible that the self was the cause of its behaviour.

In the experiment Libet looked at how the intention of flexing a finger relates to the readiness potential. The intention that has been measured is a short-term intention, because it is close in time in relation to the action. The experiment did not include how that intention was initially formed. It only paid attention to how someone became conscious of an intention. To elucidate this we have to look at what happened prior to the experiment and look at the subject's history.

Firstly, we can safely claim that the subject agreed to participate in the experiment. Secondly, the subject received information about what is expected from him during the experiment, the so-called informed consent. This involved among others that he had to flex his finger. Based on the informed consent the subject agreed with the experiment and understood what was expected from him. Consequentially, the subject made a long-term intention to flex his finger somewhere in time during the experiment. Therefore it is not singled out that consciousness plays a role in the subject's behaviour.

The experiment tells us that we do not consciously initiate short-term intentions. The being of the brain, the unconscious direct cause of the action, is already formed by the relation a person has by having a brain. The person formed an intention to flex a finger somewhere in time during the experiment.

Thus the flexing of the finger is not performed from within, but the relation the person has with the experiment causes the finger to flex. For instance, the person will be less likely to flex his finger outside that experimental setup. Thus the eventual flexing of the finger is in accordance with the goal of flexing the finger during the experiment. In addition the person became aware of this goal right before he flexed his finger. This explanation is in line with how we experience ourselves. We do not consciously think about our actions all the time, a lot of our behaviour is performed unconsciously (cf. Aydin 2013B).

4.1.2 Reinterpreting Nisbett & Wilson

In chapter one we saw that Nisbett and Wilson conducted an experiment that considered unconscious behaviour. For the experiment they installed three displays with identical socks. The label of the socks might have been different, but the actual socks did not differ from each other. During the experiment Nisbett and Wilson noticed that costumers preferred the display on the far right. Apparently right-handed people had the preference for objects on their right hand. When the researchers asked the costumers why they had chosen those specific pair of socks, the costumers often ascribed false reasons to their behaviour (Nisbett & Wilson 1977). This is often referred to as confabulation. The experiment shows that people do not always make conscious rational decisions.

If we consider the experiment from an anti-essentialist perspective we should think of the relation an already constituted self has with the world. First we should consider what the constitution entails. A person knows its preferences for socks concerning colour, size and price. Based on this 'ideal' a person forms a long-term intention: the goal to buy socks. Of course there might be the possibility to buy socks on an impulse, but the investigation of how unconscious processes and impulses interact is beyond the scope of this thesis. Thus when people buy a pair of socks, these socks apparently meet a certain balance in the personal preferences. This behaviour is in correspondence with their long-term intention. This intention is based upon how a person wants to position himself in relation to his biology and cultural and material environment. Thus when a person consciously formed the intention to buy socks and he subsequently bought the socks, the person acted freely. This leaves us with the problem of confabulation.

Apparently the reasons people ascribe to their behaviour were false, namely that they made a rational decision for choosing one pair of socks over an identical pair. The friction between self-knowledge and being a brain can explain this. Self-knowledge is an insight in the relation a person has with the world. This relation is based upon the human biology and the material and cultural environment. Insights in relations between the biology and the world are not pre-given but have to be developed. The friction involves that self-knowledge is not pre-given. In order to get such self-knowledge a person needs to take distance from the relation between the being of a brain and the material environment. Then it is possible to observe and analyse the relation. In my view a person needs to be very critical in his observations and analysis in order to get the insight that he or she has a preference for things on his or her right side, otherwise this biological trait is easily overlooked. Therefore it is not remarkable that someone does not have this self-knowledge. Thus the self-knowledge of the costumers in the experiment is most likely not informed about their biological

trait. Therefore they were not able to ascribe the right reasons to their behaviour. This, however, does not necessarily mean that if the costumers knew about this biological trait they ascribed the right reasons to their behaviour, but with the knowledge about the biological trait they might at least had a better opportunity to ascribe the right reasons to their behaviour.

In light of the biological preference we should as well consider whether Nisbett and Wilson can make generalisations about confabulation. The preference for objects on the right hand is very specific self-knowledge. Thus in order to generalise the claim of ascribing false reasons to our behaviour the lack of knowledge about the biological preference has to be underlying in all of our behaviour. As the reader already might think, this is a very unlikely hypothesis, because a lot of our behaviour does not involve choosing between something on our right or on our left.

What the experiment does tell us is that there indeed might be a friction between our behaviour and the reasons we ascribe to it. Our self-knowledge can indeed be false or incomplete. Furthermore the experiment tells us that we are not always aware of our biological preferences in our behaviour.

4.1.3 Reinterpreting Wegner

Daniel Wegner basically conducted two types of experiments with his I-Spy experiment. The first type is about how subjects falsely identify with the outcome of their behaviour. The second type is about how external stimuli can unconsciously influence our behaviour (Wegner & Wheatley 1999).

The setup of the general experiment was as follows: the subject was sitting behind a computer and was instructed to move the mouse and stop on the picture of choice (Ibid.). During this experiment the subject wore a headphone that played music. In the first type of the experiment a different person than the subject was operating the computer mouse. The subject was unaware of this and believed that he was in control of the mouse. In the second type of the experiment the subject was in control of the mouse. During the experiment he unconsciously heard the word 'locomotive' through the headphone several seconds before he had to stop. Several seconds later, the subject actually stopped on a picture of a locomotive (Ibid.).

What we need to reconsider is whether Wegner can extrapolate these experiments to general claims. First we need to acknowledge that the I-Spy experiment only looks at short-term intentions. Because the experiment only involves short-term intentions it cannot claim whether someone acted freely in terms of whether behaviour corresponds with goals.

The experiment in which the subject falsely identifies himself with the outcome of his behaviour is very specific. It shows that our first-person experience is not always trustworthy. This untrustworthiness can be explained by considering the insights a person can have in its relations to the world. Apparently the subject was not able or willing to critically observe and analyse his relation to the environment. However, in order to make the claim that the first-person experience is never trustworthy, the experiment should be representative for all of our behaviour. Most of the time the experiment is not representative for how we experience our behaviour, because our behaviour often does have an outcome. This is as well what people expect, since they learned about themselves that their behaviour often has an outcome. This is an unconscious believe about the world that people take for granted. Often such an unconscious believe is right and makes it easy for people to live their life, but in some cases, such as in the I-spy experiment, the unconscious believe does not work.

The other type of experiment shows that our behaviour is often based upon the being of a brain in relation to the environment. This is similar to the outcome of the experiment of Nisbett and Wilson. Subjects already made a conscious intention to be part of the experiment and that they will stop at a picture somewhere in time during the experiment. Thus subjects formed their being of a brain for a particular context. After hearing a word that triggers an intention, the subject becomes aware of his intention to stop a certain picture, but is unaware that he was unconsciously influenced. The difference with Nisbett and Wilson's experiment is that the environment was not visual, but auditive. This, in light of freedom as a development, is not a rejection for having freedom, because we do not coincide with our short-term intentions but with ideals (Aydin 2013B). Instead it shows how our habits are part of our behaviour and often even determine our behaviour (Ibid.). This is in

line with the anti-essentialist self and subsequently freedom as is described in chapter three. Thus Wegner's experiment confirms that we do not always make deliberate conscious choices and certainly not a choice that is isolated from the world.

However, we cannot extrapolate this example to all circumstances. First of all, the triggered behaviour does only make sense in the experimental setup, because the person already formed an intention to stop at a certain picture. In addition, the person was triggered by one word. Baumeister (2011) claims that the brain can only unconsciously progress single words and not sentences. Thus a word can trigger behaviour that was earlier constructed, but a full sentence, as for instance an imperative, cannot trigger an unconscious short-term intention.

4.2 Chapter Conclusion

Presupposing an anti-essentialist self with developing freedom instead of a pre-given self with pre-given freedom, changes the interpretation of several neuroscientific experiments.

In general these experiments are no longer an advocate for rejecting the existence of free will. Instead those experiments show us how our behaviour is not consciously initiated. Thus they tell us something about what consciousness cannot do and show the limitations of the role of consciousness close in time to our behaviour. This is in contrast with the popular belief that conscious thoughts do cause our behaviour.

Libet's experiment shows that unconscious brain processes exist prior to the awareness of an intention. The experimental only includes a form of a short-term intention. Then it is safe to say that unconscious brain processes initiate behaviour. However, it is just a part in the process of constitution. Libet's experiment does not look at a full constituting act, therefore the experiment does not say something about the existence of free will. A brain process might evoke an action that is in correspondence with a goal, but the experiment does not include how that goal was originally formed. To get a grip on this, one should look at the relations someone has to itself and subsequently how long-term intentions are formed.

Slors proposed the idea that our conscious thoughts program our unconsciousness. Baumeister as well did research about how conscious reflection causes unconscious behaviour. Thus Libet's experiment does not exclude that conscious thoughts might influence our future behaviour. Even stronger, conscious thoughts and reflection might be necessary for creating certain habits.

In the experiments of Nisbett and Wilson and Daniel Wegner we see that subjects do not always ascribe proper reasons to their actualised behaviour. Nisbett and Wilson's experiment shows that due to biological traits we might have unconscious preferences. This is a lack in self-knowledge and this shows us that in a comparative choice between two of the same, we are less free. In addition Nisbett and Wilson show that our self-knowledge is not always helpful and can be misleading for describing our relations to the world.

Wegner shows how our surrounding unconsciously influences our behaviour. This basically shows, just like in the Nibett & Wilson experiment that we do not have an intrinsic autonomy. In both cases habits are triggered that determine our behaviour.

Libet, Nisbett, Wilson and Wegner show with their experiments what consciousness is not doing and besides, that the environment affects our behaviour. This is actually in line with the anti-essentialist concept of the self where the environment is a determinant. Among others, Wegner argument mainly affects the old idea that people independent of the environment are master of their behaviour.

In addition Nisbett & Wilson and Wegner show a form of confabulation. We should consider whether attributing a reason a posteriori to behaviour is necessarily a reconstruction of that intention. If we do not consider knowledge about the self as something that reconstructs the intention, but rather as something that interprets the behaviour, we put confabulation in a different perspective.[1] The interpretation of our behaviour is based upon self-knowledge and the subsequent goals and ambitions

[1]This is based upon Slors' idea about a reconstruction of brainstates (Slors 2012).

we have consciously formed. Thus we should not exclude that all reasons we ascribe to our behaviour are false. Only in the cases when self-knowledge is not adequate to describe the reasons for our behaviour, we can speak of confabulation.

Thus the renewed interpretation of neuroscientific experiments does not reject free will. Instead those experiments help us finding the limits in how our consciousness plays a role in our behaviour. Subsequently such experiments will learn us more about how unconsciousness and consciousness interact.

This will eventually provide a more sustainable concept of the self that can be used for further scientific interpretation for considering the limits of developing freedom.

Chapter 5

Conclusions

In this thesis I have tried to answer the question *Do the neuroscientific experiments in the debate around free will no longer reject free will when we presuppose an anti-essentialist concept of the self before interpretation?*

To answer this question I first identified which neuroscientific experiments are linked to the rejection of free will, what claims have been made based upon these experiments and subsequently I identified the underlying assumptions of those claims. The experiments that are linked to the rejection of free will are Libet's experiment about whether the readiness potential corresponds with the moment someone becomes aware of his or her intention, Nisbett and Wilson's experiment about false reasons people ascribe to their behaviour of buying socks and Wegner's I-spy experiment.

The claims that are derived from these experiments entail that 1) unconscious brain processes are prior to the moment of awareness, 2) consciousness is an epiphenomenon and 3) people often ascribe wrong reasons to their behaviour, they confabulate. The biggest claim that is made is the rejection of free will, because people confabulate and consciousness is not the (direct) cause of behaviour.

The underlying assumptions made are that 1) there is no difference between short and long-term intentions, 2) there is no difference between becoming conscious of an intention and consciously forming an intention and 3) the self coincides with consciousness. To get a better idea of whether this notion of the self that coincides with consciousness is tenable I turned to how 1) how it is linked to Descartes' modernistic notion of the self, 2) this notion is sustained by means of neuroscientific imaging-technology and 3) whether this notion of the self is tenable in light of philosophical insights and scientific evidence. In addition I considered how the self that coincides with consciousness informs the debate around free will.

The self that coincides with consciousness is linked to Descartes' notion of the self in terms that they both presuppose a form of dualism that involves a demarcation between inside and outside. Subsequently this leads to the idea of an isolated, pre-given self. This pre-given self has as well a pre-given freedom or unfreedom. The difference between both forms of dualism is that Descartes talks about a distinction between subjects and objects, while the self that coincides with consciousness involves a dualism between consciousness and unconsciousness, in which the self is isolated in the brain. This consciousness-unconsciousness dualism is sustained by neuroscientific imaging-technology such as an fMRI. This technology changes the way of scientific perception. There are three aspects that help to sustain the idea of conscious-unconscious dualism. This is due to 1) objectifying the self, 2) isolating the brain and 3) the isolation of certain brain activity. By objectifying the self it becomes static and not subject to change, this is in line with the idea of a pre-given self. Only having an image of the brain sustains the idea that the brain is isolated and the centre of our behaviour, emphasizing a conscious-unconscious dualism. The reduction of other brain activity leads to that other brain activity is not considered, nor can it make a distinction between short and long-term intentions. Subsequently this underlines the idea that there is a fundamental distinction between consciousness and unconsciousness in which consciousness does not have a role in our behaviour.

This informs the debate around free will that the self and free will are essential properties. Subsequently, there is a black-white distinction between freedom and unfreedom.

For considering whether the fundamental demarcation between inside and outside is tenable I turned to philosophical critiques by Gilbert Ryle, Daniel Dennett and Peter Carruther concerning the immediacy, infallibility and privileged access of introspective knowledge. They all concluded that introspective knowledge does not meet these criteria and need external input to exist. Thus the fundamental inside-outside demarcation is philosophically not tenable. The scientific objections entails that there is proof for embodiment, the influence of the environment and the role of consciousness in decision-making an intention forming. Subsequently the unconscious-conscious dualism is neither scientifically tenable.

Thus when the conscious-unconscious dualism in chapter two is not tenable, there has to be a different self postulated in order to give a better interpretation of the experiments. For finding a self that does not fall for the same criticisms as the pre-given self, I turned to Plessner's anti-essentialist anthropology to describe an anti-essentialist self. The anti-essentialist anthropology focuses on how a self comes into existence. Subsequently freedom has to be developed. The anti-essentialist self comes into existence by relating to determinants. This involves that the environment, physically and culturally, have an impact on the production of the self. The self should be understood in terms of its relations, but simultaneously the self does not fully coincide with those relations. Therefore, there is no essence or centre to focus on. The anti-essentialist self does as well imply that the self is dynamic and therefore in a state of becoming. The anti-essentialist self is subject to external influences. To show why this does not mean that the self cannot be free I have presented a notion of freedom that involves that freedom has to be developed, in contrary to a pre-given form of freedom. Freedom is linked to the constitution of a self. The self can make intentions about who he wants to become by means of reflection. For this he needs self-knowledge by having insights in his relations to the world and itself. Intentions can be coined in terms of habits, goals and ambitions. From that perspective a person can be free when his behaviour is in correspondence with its (long-term) goals or ambitions. Habits are unconscious behavioural patterns that can help to realise a certain goal or ambition.

The new concepts of the self and freedom have an impact on how to interpret the neuroscientific experiments and on the interpretation of the experiments. In order for an experiments to make a claim about freedom we have to consider how 1) habits are part of the experiment, 2) ambitions or goals are considered in relation to consciousness and 3) someone relates to itself in terms of being and having a brain. In light of this, the experiments of Libet, Nisbett and Wilson and Wegner do not reveal whether we have free will or not. Instead those experiments could tell us about the interaction between consciousness and behaviour and whether our first-person experience is trustworthy.

Libet, Nisbett, Wilson and Wegner show with their experiments what consciousness is not doing. Libet shows that our behaviour often depends on unconscious processes. Wegner shows how our surrounding unconsciously influences our behaviour. Furthermore he shows that incomplete self-knowledge could lead to confabulation. Nisbett and Wilson's experiment shows that due to biological traits we have unconscious preferences and in terms of making a comparative choice between two of the same, we are less free. In addition Nisbett and Wilson show that our self-knowledge is not always helpful and misleading for describing our relations to the world, because it can be incomplete.

The renewed interpretation of neuroscientific experiments does not reject free will. Instead those experiments help us finding the limits in how we our consciousness and self-knowledge play a role in our behaviour. Subsequently such experiments will learn us more about how unconsciousness and consciousness interact. This will eventually provide a more sustainable concept of the self that can be used for further scientific interpretation.

5.1 Future research

I have mentioned that several considerations were beyond the scope of this thesis. However, I believe that these considerations are worthwhile for future research.

The first consideration is how memory affects our self-knowledge. Memories are not recordings of our lives and they can be subject to deceit. Thus a false memory can lead to false self-knowledge. Therefore it would be interesting for future research to combine scientific data of false memories to the intentions people form based on memories.

The second consideration I would like to mention is how ideals are retrieved from the community. I mentioned that in case of a successful moral constitution of a self, behaviour should correspond with what in a community is considered to be worthwhile. This means that someone can only be moral if he follows the ideals of the community. The problem is that in my consideration the community is considered to be homogeneous, while in fact within a community there can be different and perhaps even conflicting ideals that are considered worthwhile. Therefore it might be interesting to consider this problem in light of a heterogeneous community. In addition one can look at the notion of non-conforming, in which a person positions itself opposed to the ideals of a community.

A third consideration that I did not mention explicitly is broadening the focus of the development of freedom to human biological characteristics. Although I have mentioned the role of the body in the constitution of the self, I have not informed in the possibilities and the limitations of the body. Linking medical and biological information about the body to how one can relate to the world can do this

Chapter 6

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