Evolutionary Storytelling

Narratives of Barbara and Allan Pease's
Why Men Don't Listen & Women Can't Read Maps

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June 30th 2014
Comparative Women's Studies in Culture and Politics

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Introduction

"That is why we need stories: to arm ourselves against chaos."

Christien Brinkgreve

In an article in the Dutch newspaper *de Volkskrant*, sociologist Christien Brinkgreve writes the meaning of storytelling lies in its ability to conquer chaos. Chaos is deceiving and renders one powerless to the conduct of fate. Today, she writes, people are looking for control by means of moral and personal guidelines more than they were fifty years ago. 'What do I want?' and 'How do I choose?' are questions that need more individual contemplation now that class and gender roles have become less restrictive and therefore less stability is provided.

In the workshop 'Autobiographical Writing' Brinkgreve provides annually, she notices the therapeutic influence the writing of one's own story can have on people. People who lost their job or a loved one, or went through another significant chance in their personal lives get a grip on their lives again by writing their own story. Writing your own story gives you control through the improvement of your understanding, and consuming other stories helps you to see the world from another perspective and heightens the understanding and therefore reduces the sense of powerlessness. Children want to hear the same stories over and over, preferably with the same intonations, to come to terms with the world. Adults still need stories to render life and their choices meaningful (Brinkgreve 26-27).

One of those stories that is particularly popular today is the story of human evolution. It offers an answer to the questions of who we are, and how we became who we are. In more ardent approaches it can even offer answers to what we are becoming and what choices we should make.

When Charles Darwin published *The Origin of Species* in 1859 it was innovative as well as contested for its radically different view on the character of nature but also for its bridging social theory and biological discourse (H. Rose 131). It shows how nature as a whole is in a state of continuous change, each species is different from another species and each individual is different from the next. Over the face of the earth and over time, nothing is the same twice. Darwin feels, next to his admiration of the diversity of organisms, that in this ever changing chaos laws must occur:

> Throw up a handful of feathers, and all must fall to the ground according to definite laws; but how simple is this problem compared to the action and reaction of the innumerable plants and animals which have determined, in the course of the centuries, the proportional numbers of kinds of trees now growing on the old Indian ruins! (Darwin 59)

Natural selection is one of the main causes of change, "but not [the] exclusive means of modification" (ibid. 7). Natural selection is the principle that 'selects' the individuals that are most fit to the existing environment. New species come into existence through numerous subsequent selections of favourable variations and the rejection of unfit variations (ibid. 64). Darwin studied many different animal species to base the foundation of his theory of evolution on, much to the interest of other scholars. As a consequence, biology then became a successful new discipline in universities (H. Rose 134).

When we skip a century forward to the 1970s, sociobiology emerged as an attempt to explain human behaviour by comparing it to animal behaviour (ibid. 128). It stressed the importance of a biological account in social sciences but anthropomorphised animal behaviour in the process (Rose and Rose 3). It was consequently quickly discharged as a scientific discipline; but its successor, Evolutionary Psychology, which "turns to a universal human nature as it evolved in the Pleistocene period" (H. Rose 128), followed shortly.

Evolutionary Psychology (EP) explains human behaviour by referring to the utility of certain characteristics or conducts in the Environment of Evolutionary Adaptation – the African drylands – during the Pleistocene (Vasterling 4). Humankind has supposedly lived for numerous generations in a barely changing environment, which made the species attune to that specific surrounding. In the past couple of thousand years, however, the environment has changed dramatically but due to the slow process of natural selection, evolution has not yet caught up and humanity is left with an outdated brain (Buss 20).

People supposedly lived in small hunter-gatherer societies where the man would venture out each day to hunt to provide the major food supply for his woman and children, as well as defend them against enemy tribes and savage animals (Pease and Pease 12). The woman would take care of the children, scavenge fruits, vegetables and nuts and keep a good atmosphere in the group. Men and women had clear defined roles, stuck to it and were happy with their own skills and activities as well as appreciative of those of the other. "Survival was difficult but the relationship was easy" (ibid. 13).

In the pop-scientific book *Why Men Don't Listen and Women Can't Read Maps* Australian communications skills authors Barbara and Allan Pease clarify a host of male and

female characteristics by pointing out their utility in the Environment of Evolutionary Adaptation (EEA). They enlighten us with the reason why men do not listen: they developed tunnel vision and 'tunnel hearing' through generations of hunting and hence cannot do two things at a time. Additionally, men did not develop good conversational skills because they never had to talk during hunt (Pease and Pease 74-76). Women, on the other hand, never needed to be good navigators in the EEA because they stayed close to the cave they lived in. Men, however, did evolve into good navigators and that is the reason women cannot read the maps men make (ibid. 108).

Nowadays people do not stick to the roles their ancestors have presumably always followed and this causes distress in modern relationships, as well as decreases one's self-worth (ibid. 15). But Pease and Pease offer help to find "true happiness" (ibid. 16) again:

> Our objective in writing this book is to help you learn more about both yourself and the opposite sex, so that your interaction and relationships can be more fulfilling, enjoyable and satisfying. (ibid. xix)

The story of human origin EP provides us with – looking at the sales figures of books like these – is nowadays suitable for the search for identity that people face, as described by Brinkgreve. But what is it exactly that these books offer? What is the story that they tell? What are the most essential elements to make it a good story? What other cultural ingrained stories do they reflect and what is the function of this similarity?

To answer these and other questions I will closely examine Barbara and Allan Pease's *Why Men Don't Listen and Women Can't Read Maps* (hereafter: WMDL) and the scientific research they base their claims on. I will not go into the 'truthfulness' of the claims made in EP since this has been extensively done by researchers such as Stephen J. Gould, Veronica Vasterling, Anne Fausto-Sterling, Hilary Rose and Steven Rose. Rather, I will explore the stories which make EP in its popular form so appealing. I will use content analysis and narratology as methodologies, as I will explain in the first chapter. My research question is hence: What cultural narratives can be found by studying Barbara and Allan Pease's *Why Men Don't Listen and Women Can't Read Maps* and its scientific references, from a feminist perspective?

I will first go deeper into the methodology used in this research and clarify why I use content analysis as described by Sharlene Hesse-Biber and Patricia Leavy, and narratology as

described by Mieke Bal. Additionally, I will elaborate on my feminist epistemological position using the writings of Donna Haraway and Sandra Harding.

In the second chapter I will start the beforehand described analysis by exploring the hidden biases of Eurocentrism and heteronormativity in WMDL. In the third chapter I will elaborate how these biases have a normative effect which adds to the overall normative venture of WMDL. I will argue that WMDL holds a certain kind of ethics and resembles religion in at least its offering of a new base for morality. In the fourth chapter I will show that the genocentric foundation of contemporary EP mirrors neo-liberal economics in its centralising competitive units that strive for maximal profit and that this logic of egoism is extended to other disciplines as well.

Chapter 1
Methodology

In this chapter I will explain the methodologies I used for this research. I decided to use a narratological and content analytical framework that is embedded in the feminist epistemological tradition. I will successively go into the methods of narratology, content analysis and feminist epistemologies. While doing so, I will explain the basic premises of the methods, why I use those particular methodologies and how I will bring them into practice. In the final section I will elaborate on an example of how to use narratology on non-fictional texts.

Evolutionary Psychology (EP) methodology knows a special kind of rhetoric in which a premise X is presumed, an argument Y is developed, and when research confirms the correctness of X, Y is considered scientifically proven. Say, if one takes for X that men are better drivers than women; Y could be: men are better drivers because they have developed superior spatial abilities due to the fact that men have hunted for food for thousands of generations while women performed tasks that required less spatial abilities.[1] When (cross-cultural) research would prove X is true, Y is also assumed to be true.

In this thesis I will not question the X premises. They can be true or false, or somewhere in between. Others have done this before me and I am less equipped then biologists and archaeologists to do so. My aim in this thesis is to evaluate the different stories – the way that the theory is being told – that underlie the Y-theories used in Barbara and Allan Pease's *Why Men Don't Listen and Women Can't Read Maps* and evolutionary psychology in general. Who is speaking in this popular scientific book and who is silenced? How are gender, race and diversity represented? And how has this book become so popular?

I will use *Why Men Don't Listen and Women Can't Read Maps* (WMDL) by Barbara and Allan Pease as a case study. WMDL is a popular scientific book that uses the discipline of EP to explain human behaviour. While many writers have argued EP is based on unqualified methods and mistaken assumptions, and is therefore bad science (McKinnon; Vasterling; Rose and Rose (eds.)), books like WMDL continue to be popular. With over 12 million copies

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[1] This is an example from Pease and Pease 107-135.

sold in 50 languages WMDL can certainly be seen as popular and therefore influential in modern day pop-culture.

To answer the questions posed above I will use a combination of narratology as described by Mieke Bal in *Narratology: Introduction to the Theory of Narrative* and content analysis as described by Sharlene Nagy Hesse-Biber and Patricia Lina Leavy in *The Practice of Qualitative Research* and *Feminist Research Practice: A Primer*. Narratology will provide the means to meticulously explore the elements of the narrative form of EP, whereas content analysis will provide the framework to interpret the elements of the story by placing them in a power dynamic and discourse. This chapter will give an overview of the most important concepts of both methodologies and will provide notes on my epistemological position.

Narratology

Narratology is the ensemble of theories of narratives, narrative texts, images, spectacles, events; cultural artifacts that 'tell a story.' Such a theory helps to understand, analyse, and evaluate narratives. (Bal 3)

Narrative can be understood as story-telling in a broad sense and is not limited to works of fiction. Detective books tell a story, but so do films, both those that are aimed at entertainment and those that are informative. Printed advertisements; oral folk tales; and news items in the paper or on television, they all have a narrative form. Narration is an intrinsic part of our language by which we transfer information and entertain our listeners. Monika Fludernik defines narrative as follows: "a representation of a possible world[2] in a linguistic and/or visual medium, at whose centre there are one or several protagonists of an anthropomorphic nature who are existentially anchored in a temporal and spatial sense and who (mostly) perform goal-directed actions" (6).

I think this definition is rather limited, since it focuses on "protagonists of an anthropomorphic nature" who perform certain actions. However, this definition does make clear that narrative is not limited to fictional works and that the media where narration can take place are manifold. Factual or fictional events are narrated when they are 'told': orated, written, or shown through a medium of any kind. However hard it may be to define what a narrative text or a narrative exactly is, we do have an intuitive grasp of the concept. Moreover, according to the theory of Bal it is not necessary for the use of the theory to precisely

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[2] Since in this research I am dealing with a non-fictional work I would like to make explicit that the actual world is also one of all possible worlds.

delineate what counts as a narrative and what does not, or as she states it: "delimitation is not the point of a theory geared towards facilitating analysis" (3).

Narratology, then, facilitates analysis; it gives us the tools to dissect the narrative and take a closer look at its parts. Bal does this by first separating the narrative text into three layers: the text, which is the configuration of signs; the fabula, which is the imagined world in which the events take place in a logical and chronological order; and the story, which is the way the events in the fabula are presented (5). She takes the story of 'Tom Thumb' to illustrate how these layers work. Many people know the story of Tom Thumb, however, they have not all read or heard it from the same text. There are multiple variations on the text: written in different languages, different ways of writing in the same language, in different media (written, but also animated film, theatre plays, etc.), and strictly speaking every copy of the same book about Tom Thumb can be seen as different texts. However, the fabula they describe is the same; they all represent the same sequence of events in time and place. (The poor parents who decide to leave their children in the woods; the children getting lost and arriving at the giant's house; Tom Thumb's tricking the giant causing him to murder his own daughters; the boys returning home safely.) The story, the way of representing the fabula, is in these different representations in some ways similar and in others dissimilar. Due to the different media in which the fabula is represented, and the different ways of telling, the focus may lay on other aspects and other affects may be provoked. What is similar in the representations of Tom Thumb, is that the rather cruel event in the fabula, where tricking the giant caused him to murder his own children, is a moment of victory in the story and applauded by the reader in all versions. The triumph is not part of the fabula, but part of the story.

Additionally, narratology describes how the text, the aspects of the story, and the elements of the fabula can be subdivided. On the level of the text the narrator can be identified as first or third person and categorisation as narrative or non-narrative parts are dealt with. The level of the story is considered with how the story is told: what is the order of events in the fabula and in what way are they ordered in the story? What is the rhythm of the story? How are characters constructed and from whose perspective is the story represented? In narratology this perspective is called focalisation. It is "the relation between vision and that which is 'seen,' perceived" (145-146). On this I will elaborate more later on in this thesis.

I use Mieke Bal's narratology because of its contemporary, critical, and feminist view on narrative and the possibility to apply it to narrative in a broad sense. I will look at the anecdotes, hypotheses of human life in the Pleistocene, and the use of language in WMDL

and explore what affects are focalised. Bal characterizes her theory as a "heuristic tool," and a "readerly device" (xv, xix), meaning it will not give answers right away but can be used to interpret meaning in the narrative parts, meticulously separated from each other with use of the narratological approach. The separation of the parts, and even more the interpretation of their meanings, is done by the reader and therefore they are subjective and situation bound. However, narratology hands down concepts, such as focalisation and the three layers of narratives, that enable systematic analysis and discussion between different interpretations of a narrative. Narratology is thus a starting point, a tool, which helps to structure and nuance interpretations (4). Whereas the term 'theory' may be somewhat deceptive since it often denotes a principle which is aimed at the ready-made production of knowledge (175), narratology, in contrast, is a cultural attitude, or a perspective on culture through which cultural artefacts, events, or domains can be closely analysed (227).

In this thesis, narratology is a useful tool to get a new perspective on WMDL and EP in general. It helps to closely study the specific words and metaphors used, the characters portrayed, and focalization can help to find the difference between who sees and who speaks. Therefore, it can give a nuanced standpoint on the power relations underlying scientific research. Previous feminist research on EP, including other theses from the Comparative Women's Studies programme, has mainly focused on the bad science[3] underlying EP both in the method intrinsically and in the application of scientific methods (see McKinnon; Vasterling; Rose and Rose (eds.)). This is an important body of work that has been done extensively and I, as a student of philosophy and gender studies, do not feel I can provide a significant contribution to this thoroughly performed study. The most important disciplines to gain new insights to ground a critique of EP's claims are probably (evolutionary) biology, anthropology and archaeology, which are not my areas of expertise. Therefore, I will mainly focus on the story that is being told. I will explore what other popular cultural stories are mirrored in WMDL and argue that this recognisability is one of EP's appeals. Comments on EP's research methods and argumentative logic have already comprehensively been elaborated and I will frequently refer to those arguments. I argue that authors (such as McKinnon; Nelkin; Midgley *Evolution as Religion*) that do focus on the myths and stories surrounding EP often lack a clear methodological framework. They do not specify what kind

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[3] "At least ideally, the scientific method requires that a hypothesis be tested against empirical data that have the potential for disproving it – that is, against aspects of the world that are relevant, resistant, and not already internally implicated in its own presuppositions. It is precisely evolutionary psychology's failure to do this that makes it 'bad science'" (McKinnon 120-121).

of methodologies they are using. In contrast, this framework of narratology will help me focus and work in a structured manner.

I do think, however, that the downside of narratology is that it gives little means to interpret the meaning of a narrative text. To fill this void I will use content analysis as another perspective to enrich my methodological approach.

Content Analysis

> Culture is a site where struggles over meaning are played out and later embedded in a host of cultural artifacts such as texts and products ... By investigating culture in general, and popular culture more specifically, dominant narratives, images, ideas, and stereotyped representations can be exposed and challenged. (Hesse-Biber and Leavy *Feminist Research Practice* 224)

Content analysis is a method to explore non-living artefacts such as texts to study a culture that is both reflected in the object, as well as distributed by it. As Stuart Hall argues, hegemony – as well as opposition to it – is enacted in cultural texts but also shapes the way people think about the reality that it describes (Hesse-Biber and Leavy *Qualitative Research* 292). The objective of content analysis is to uncover hidden suppositions, silenced groups, and power relations in these cultural texts and other artefacts. By critically analysing the research object, as well as one's own suppositions the text can be deconstructed in what is affirmed and what is left out (ibid.). This can be done in order to merely show the contingency – i.e. current states of the world that could also have been otherwise – of the cultural accepted beliefs, or in order to express cultural critique and to try to establish political changes. In this thesis content analysis will serve to facilitate a more structured interpretation of the narratives of WMDL in order to enable a focused cultural critique. I believe that in the context of this research content analysis complements narratology by aiming at the exposure of hidden cultural truths and ideologies and at the emancipation of silenced groups. This makes this combination of methodologies appropriate for feminist research.

Content analysis draws heavily on Michel Foucault's discourse analysis as employed in *Discipline and Punish* and *The History of Sexuality*-trilogy. In these works Foucault searches for contingencies in everyday practices that are seen as natural and explores how they are established and reinforced. In *Discipline and Punish* he explores current forms of power over the body and how these power relations are institutionalised. He argues that there

has been a shift from sovereign power to a more subtle form of power that disciplines people, i.e. makes people internalise power and hence correcting themselves according to social norms. In *The Will to Knowledge* (first part of *The History of Sexuality*) Foucault researches how sexuality came into discourse, i.e. what incentive made people talk about sexuality and thereby formulate normative statements about it, and what practices reinforce the norms.

In this way Foucault shows that many aspects of human culture, that could be perceived as human nature, are place and time bound and could have also been otherwise: they are contingent aspects. In order to explain this point, he analyses a large collection of cultural texts and artefacts but is often sloppy with giving references to his sources and he does not describe a specific technique of analysing them. Other scholars have tried to define some guidelines that include a critical attitude towards one's research outcomes, since they are as influenced by time, place, and cultural values as the matter of research (Mills; Kendall and Wickham). Foucault argues that all knowledge emerges through power relations, and is thus continually shifting and therefore radically contingent (Downing vii). A research method that has its starting point in the radical contingency of knowledge can hardly have a precise defined methodology because the foundations of its method are also contingent and thus not based on fixed, 'objective' knowledge.

Additionally, the concept of power/knowledge is of great importance in Foucault's theory. He argues knowledge is not about a fixed eternal Truth, but is rather shaped through power dynamics. Truth is not independent of human knowledge but is constructed in the complex relation of power/knowledge. To summarise this complex relation, Foucault writes:

> We should admit [...] that power produces knowledge (and not simply by encouraging it because it serves power or by applying it because it is useful); that power and knowledge directly imply one another; that there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations. (*Will to Knowledge* 27)

From this statement, it follows that knowledge can only be produced within the institutions of power, in a discourse, and that the production of knowledge objectifies and hence subjugates the subject of knowledge. This understanding of power/knowledge helps to understand how discourse is shaped and develops. Foucault uses this concept of knowledge as interweaved with power and always shifting to analyse discourse. His discourse analysis consists of

studying an immense amount of cultural artefacts, but it can also be applied to a single or a few texts or artefacts, and is then called content analysis.

Although Foucault states that all accepted knowledge is contingent, discourse or content analysis does not need to be a relativist[4] venture. It is worthwhile using a Foucauldian method on matters such as EP since it is meaningful in the contemporary discourse and the method has a very real objective in making people more aware of potential oppressing thoughts. Through this awareness subjugated people can emancipate and improve their position in society. Semi-scientific books such as WMDL are popular and have high credibility because of their scientific status. The concept of power/knowledge shows that this makes them influential in popular culture and, as I will show in the subsequent chapters, there are people who are left out and are subjugated in the process. By recognising the power of books like WMDL, subjugated positions can be acknowledged and hopefully a change might be made.

According to Hesse-Biber and Leavy, content analysis draws on poststructuralism and postmodernism, which argue that power/knowledge relations are perceptible in language in general and in cultural texts more specifically. So by analysing the content of texts, cultural norms and values, dominant narratives, and stereotyped representations can be exposed and challenged. Of course the dominant discourse is also often contested so different texts and even texts in itself will have contradictions (*Feminist Research Practice*, 224). The contesting (parts of) texts are often recognisable because they need more space to explain their views. But these still have hidden assumptions that express the discourse they are coming from, be it the dominant discourse or a contesting one. The challenge is to recognise the concealed premises which consist of culturally established knowledge claims and therefore show strong but often invisible power dynamics.

In *Feminist Research Practice: a Primer* and *The Practice of Qualitative Research* Sharlene Nagy Hesse-Biber and Patricia Leavy give, in almost identical chapters on content analysis clear outlines on how to conduct it. Its significance is illustrated by Süheyla Kirca:

> Feminist intervention in popular culture might offer feminist politics a pragmatic strategy to shift balance of power and prepare the ground for change, and thus help transform society. Since popular culture is a significant site for struggle over meaning, which offers the culture's

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[4] Epistemological relativism is the position that holds that true knowledge is different in different cultures, or can even differ between individuals (Swoyer n.pag.). It often follows that therefore a search for knowledge is pointless and disagreements cannot be solved since everyone has her own truth. It is this pessimism that I agitate against.

dominant definitions of women and men, it is therefore crucial to intervene in the mainstream to make feminist meanings a part of everyday common sense. (Kirca qtd. in Hesse-Biber and Leavy, *Feminist Research Practice*, 223)

Hesse-Biber and Leavy argue that content analysis is an unobtrusive method; the researcher does not create or co-create the data, as is the case when conducting interviews or ethnographic research. The research object is therefore not influenced by the researcher and the data resulting from the research can be said to be more authentic than in an interview where the interviewer can aim at specific outcomes and influence the interviewee into deeper analysis than she would have done on her own or to give desirable answers. This makes this method more resistant against critique and therefore a stronger approach to "intervene in the mainstream" (ibid. 227-229).

Content analysis originated as a quantitative research method in which researchers would count occurrences of an aspect they were interested in, in certain texts (ibid. 230). This has developed into a quantitative-qualitative merger, where lots of thought is given to the conceptualisation of which things are worth counting. Content analysis now is a hybrid method because the concepts used are constantly reflected upon throughout the research (ibid.). It usually consists of "a sampling of data, which are then broken down into 'units of analysis' (such as lines of text, scenes of films, and so forth). The data are then decoded, which means they are categorized into preconceived or inductively generated code categories" (ibid. 231). A typical research project, in this framework, would consist of the following steps: first forming a hypothesis starting from an analysis of some content and of the intuition; then analysing more data and generating codes; and finally the researcher would continue to reanalyse and analyse additional data and to reform and refine the codes. This method ensures a critical standpoint with respect to the research topic and self-reflection.

In this research I continually switch between studying the content of EP, especially WMDL, and research on and analyses of EP. When newspaper and magazine articles on EP annoyed me for their often simplistic and sexist way of portraying human nature and human history I started to read short critiques. While reading these critiques my annoyance grew stronger and it was difficult to not put WMDL away before finishing the book. However, I discovered that academic research underlying EP and popular semi-scientific books written by scholars are often more nuanced and I had to go back to the critics to reread what attitudes they found most questionable. Eventually, the topics in this thesis – heteronormativity,

Eurocentrism, normative implications, religious tendencies, misplaced agency and economic rhetoric – stood out the most in my reading of primary and secondary literature on EP.

Epistemological Position

I have combined narratology and content analysis in search for a structured research methodology through which I can analyse both the narrative form of WMDL in a comprehensive way, and have a coherent framework which understands how these kind of texts mirror and affect popular thinking through their knowledge production. I am also aware that a large part of the research still rests on my own interpretation of the text and on the way I conceptualise the codes by which I do research. I am aware that this interpretation is subjective and position bound. However, I argue that this is not a negative thing since good science[5] is not looking for an objective position that operates outside culture and is untouched by cultural norms and categories. On the contrary, feminist knowledge is produced through a continuous conscious reflection on what these cultural categories are and how we can do good research while taking our own sociological position into account. I am indebted to Donna Haraway's 'situated knowledges' and Sandra Harding's 'strong objectivity' by which they both describe this critical position with regard to science. While they differ in their opinion on whose knowledge is valued more – Harding claims knowledge from a subjugated standpoint is of greater value; Haraway argues all knowledge is partial – both stress that there can be no view from nowhere. The researcher is always situated and should take responsibility for her standpoint and the choices she makes in the research.

According to Mary Midgley good science is about taking a critical look at the myths and drama's that drive our imagination as researchers. We should not deny them but instead accept them, and being realistic about them. When you are honest and take responsibility for your research methods and concepts, you can let the reader decide to which extend s/he wants to follow your argument (*Evolution as a Religion*, 4).

Indeed, science fiction and social reality are not that different according to Donna Haraway. "Social reality is lived social relations, our most important political construction, a world-changing fiction" ("A Cyborg Manifesto" 149). Our social relations are not completely material but make up an important part of our lived experience and are very real in the sense

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[5] I will explain the concept of 'good science' later on.

that they can change the world. They are between fiction and reality, and therefore break down the boundary between those two.

Mary Midgley calls this fiction surrounding a theory 'drama.' Midgley stresses that every scientific theory comes with its own drama. This is similar to Bal's level of the story. When it is a good theory, the drama is just the "expressive aspect of the theory itself." When the drama is essential to the theory it is a bad theory (Midgley *Evolution as a Religion* 4). The theory needs to be expressed, or as Bal would say, presented. This presentation inescapably comes from a narrator and it is therefore given a story or drama.

The theory of EP has more than most scientific theories a large part of drama (Midgley *Evolution as a Religion* 4). Science fiction, while it is often seen as a story about the future, is a perfect name for this myth of human origin. EP cleverly combines scientific method with a fiction, complete with characters, a defined place and time where the events take place. Through this technique the fabula of Man and Woman in the Pleistocene is presented as a factual history, while it is in fact a fictional narrative described according to social norms found in the present.

Method in Practice

In this section I will address an example of how a non-fictional work can be analysed using narratology as methodology. I will show this with an example given by Bal which coincidently is about evolutionary theory. This makes the content also of significance to this research.

According to Bal, Evelyn Fox Keller shows a perfect example of how the search for narrativity and the identification of the narrator can also be relevant in "apparent non-narrative texts" (Bal, 34). Keller explores the use of language and story-telling in scientific texts. Those are not typically seen as a narrative text because they are not fictional. By use of the narratological method, however, she shows that in science as well theory is narrated.

In *Secrets of Life, Secrets of Death* Keller shows in two studies how language and science interact:

> The first was about the way scientific inventions and ideas are presented to the larger public. The study focused on the word 'secret' as in 'the secret of life.' The second study was about the language in which biology continues to build on evolutionary theory. A central concept in

that work was the term 'competition,' traditionally related to 'struggle for life' and 'survival of the fittest.' (Bal, 34)

Keller notes in "Language and Ideology in Evolutionary Theory" the reductionist tendency in biology to describe man as a machine and asks herself: "Have animate, even human, forms finally been successfully deanimated and mechanised, or have their mechanical representations themselves been inadvertently animated, subtly recast in particular images of man?" (114). With this question in mind she studies the use of language and metaphors in evolutionary biological texts as mini-narrative, making it a narratological study.

For example, Keller discusses how the natural image of man as presented in evolutionary theory is a mere contingency originating from "our own social and psychosocial heritage," (115) that we might call the "Hobbesian man"[6] (116). This man is in constant struggle for his life and well-being. Everyone is a competitor in a fight over limited resources in a very hostile world. Where this image goes awry, as Keller argues, is first in endowing 'nature' with an immoral inclination: being hostile and cruel to man, while it is in fact amoral: indifferent (117). Second, it is mistaken in assuming that every individual (be it a human being or a gene) is in constant competition with others. This leaves no place for cooperation or altruistic behaviour. Keller recognises that evolutionary biologists do say that 'competition' in their terminology is different from colloquial use, but continue to use metaphors affirming this colloquial meaning:

> Given a full change to act to its own interest, nothing but expediency will restrain [an organism] from brutalizing, from maiming, from murdering – his brother, his mate, his parent, or his child. Scratch an "altruist" and watch a "hypocrite" bleed. (Micheal Ghiselin, qtd. in Keller 118)

While Keller does not explicitly say she uses narratology, Bal claims this is a narratological approach and argues Keller's study shows that with use of narratology hidden assumptions and cultural narratives – e.g. selfishness is the prime mover of life – can be exposed.

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[6] Thomas Hobbes uses a hypothetical 'state of nature' to base his moral and political theories on. In this state of nature there is no government and thus a constant war of every man against every man since everyone wants to ensure he has resources but there is no authority to protect one's properties (Lloyd, n.pag.). The Hobbesian man is hence an aggressive, selfish and frightened man.

Chapter 2

Eurocentrism and Heteronormativity

Eurocentrism is a kind of ethnocentrism in which 'Western' cultures and cultural practices are considered to be morally superior and/or universal (Stam and Shohat 3-4). I use 'European' or 'Western' here more as a cultural marker than as a geographical one, and thus with this term I refer to mainly western European and North-American cultures. In this chapter I will provide an analysis to show to which extend WMDL is a Eurocentric endeavour. I will do this by looking at the use of language, for instance how non-Western cultures are spoken of, as well as what kind of scientific research is used to found the main claims. What concepts are used in the research, and what cultural background does the research population have? At the end of this chapter I will show how heteronormativity, another influential hidden bias, plays a role in WMDL. Heteronormativity is the culturally expressed norm to be heterosexual, often implicit found in the assumption that everyone is heterosexual.

Eurocentrism

Ethnocentrism, judging the world according to one's own cultural values, is a blind spot caused by lack of knowledge about the judged cultural practice and its context. Due to colonial history, Eurocentrism stands out as a special kind of ethnocentrism. While in colonial times the West formed explicit rationales to justify Western dominance over the 'East,' Eurocentrism has become more subtle and is not limited to (neo-)Europeans'[7] views: according to Shohat and Stam, "Eurocentrism is the 'normal' consensus view of history" that most people – Western and non-Western – learn at school or from other media (4).

Edward Said argues in *Orientalism* that indeed, the West has ruled over the East or 'Orient', not only by imperialistic practices but also through knowledge production. By making an epistemological and ontological distinction between the self (West) and other (East), the latter is subjected "by making statements about it, authorizing views of it, describing it, by teaching it, settling it, ruling over it" (Said 3).

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[7] Neo-European cultures emerged from groups of European colonists who did not leave the old colonies after imperial times had ended and became the dominant culture in these areas, such as in the USA and Australia.

Through Eurocentrism the West has the power to impose its own cultural values upon the rest of the world. One of its many contemporary effects is that the Western scientific knowledge production is seen as the universal way to grasp truth and have reliable outcomes and is therefore considered the most powerful mode of knowledge production. As Shohat and Stam argue, science and technology are seen as Western in general (14). A look into the research used for the writing about homosexuality in WMDL shows that all research has been done among western populations (as can be seen in for instance Bailey and Bell; Allen and Gorski; Hu et al.). Assuming that western people are perfect representatives for the Universal Human is only one way in which EP research is fundamentally Eurocentric. Another problematic assumption is the idea that homosexuality is a cross-cultural notion. I will deal with this concern at the end of this chapter in the section 'Heteronormativity.' I will first argue within a narratological framework that WMDL and the research it is based on are thoroughly Eurocentric. Therefore, I will first show that the writing style of the authors postulates objectivity, which makes it harder to see the implicit biases. Additionally, I will argue that indeed this bias is Eurocentric, by showing that the examples that are given in WMDL are typical for Western cultures but are nevertheless repeatedly claimed to be universal, and that Euro-American culture is marked as superior to other cultures.

If we look at WMDL from a narratological perspective we can discern three kinds of persons: a narrator on the textual level, actors in the fabula, and a focaliser in the story. The authors figure as all three at some point, but the differences between the three are of theoretical importance. The narrator is the one who tells the story, "the (linguistic, visual, cinematic) subject, a function and not a person, which expresses itself in the language that constitutes the text" (Bal 15). Throughout the book, the authors function as the narrators. Actors are the people who act in the fabula. The focaliser is the one whose perspective is reflected in the telling of a story. Bal notes that the concept of focalisation is specifically useful also in non-fictional texts, since those are also always written from a certain standpoint:

> This slanted, or why not say the word, subjective nature of story-telling is inevitable, and denying it constitutes in my mind a dubious political act. Sure, it is possible to try and give an 'objective' picture of the facts. But what does that involve? 'Objectivity' is an attempt to present only what is seen or is perceived in some other way. All comment is shunned and implicit interpretation is also avoided. (145)

Allan Pease and Barbara Pease try to attain an objective way of narrating by first, basing their arguments on "authentic" scientific research (11) and second, by the use of an external narrator[8] when they are themselves actors in the story. I will now look more closely to an example of such an instance:

> Author Barbara Pease was unaware that the new contraceptive pill she had been given contained a high level of testosterone. Her husband, Allan, quickly learned the valuable art of ducking from flying plates and other airborne objects during Barbara's PMT [Pre-Menstrual Tension] phase, and rediscovered his childhood facility for the short-distance sprint. Interestingly, her parallel parking abilities – or lack thereof – no longer started arguments. They improved dramatically on this pill. (178)

There are two actors in the level of the fabula: Barbara and Allan, who both act in the event and have experiences. There is a third agent, the narrator, who names the event and the experiences of the actors; s/he tells the story. The story is narrated in third person; it does not speak of 'we' and 'I,' but uses the first names of the actors, just as it is done with other actors in the story. This way of narrating invokes pretence of objectivity because it appears to be told from a view from nowhere, certainly not by the actors (authors) themselves. But as stated by Bal in the quote above, and repeatedly argued by feminist philosophers of science such as Donna Haraway and Sandra Harding, the modern concept of objectivity is a façade. As shown by Haraway in "Modest_Witness@Second_Millennium", objectivity and masculinity have constituted each other in the early scientific discourse. Consequently, western science has become blind for the implicit male bias in its research objects and methods. The resolution that many feminist philosophers of science propose to male and other biases, is a greater sensitivity to the ways in which the researcher interacts with the researched. Hence a stronger objectivity[9] can be provided when the subjective state of the researcher and the research methods is acknowledged and not denied. By denying their subjective view the authors of WMDL do not recognise their biases.

The passage above *tells* about a fabula, an event with actors that in this case is claimed to have taken place in the past, but could also be fictional. The story is the subjective way in which the authors tell about the fabula. The comical tone of this excerpt is part of the story, as

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[8] An external narrator is a narrator who is not a character in the story that s/he tells.

[9] As explained by Sandra Harding, strong objectivity is an epistemological position that is not aimed at doing value-free research but starts from subjugated knowledges and aims at nuanced, critical research that does not deny the researcher's influence but takes her sociological position into account.

is the way in which it is focalised: whose perspective is given here? Barbara is described as more aggressive than before, but this is illustrated not by her perception of herself but by the flying crockery. Similarly, while Allan *learns* and *rediscovers*, Barbara does not improve her parking skills, but they do no longer "start arguments." This shows that the focalisation lies with actor/character Allan here, while he is not the narrator since it is not a first-person narrator. The lack of agency attributed to Barbara is stunning. Instead, it seems as if her hormones take control and are in charge of her decision making.

As an objective scientific endeavour, WMDL, like most non-fictional works, does not have a clear – i.e. character-bound – focaliser and narrator. The objective style of writing strengthens its credibility in modernist discourse since here an objective standpoint – the denial of the subjective perspective of the researcher – gives authority. However, from the critical perspective of feminist epistemology, the obscuring of the writer's position indicates hidden biases.

Now that WMDL's messy attitude with respect to science and bias is pointed out, it is essential to specify where Eurocentrism surfaces in WMDL and how it is reinforced. The universality of evolved human behaviour is one of the main fundamental assumptions in WMDL. The book's aim is not to provide evidence for it – it is already beyond that – but to use our knowledge of the universal human nature to our advantage and create happier lives for ourselves and our heterosexual partner. Nonetheless the writers continue to emphasize the universality of their claims with phrases such as:

> [W]omen all over the world everywhere are criticised by men for telling them to turn right – when they really meant left. (Pease and Pease 55)

> 'When he's reading the newspaper or watching TV, why can't he hear what I've just told him?' is a lament that has been made by every woman in the world at some time. (ibid. 54)

The synonyms 'all over the world' and 'everywhere' are combined to give the statement extra force, but the meaning does not change. Similarly, the semantics of the second sentence would have been just the same if it would have ended with 'every woman'. But to emphasize the universality of the claim, two other indicators of pervasiveness have been added: 'in the world,' and 'at some time.' By this choice of words the universality is not only assumed, but is firmly drummed into the reader's head throughout the book. The diversity of human

cultures shown in the anthropological record is dismissed and the reader is pushed to reduce social life to a set of rules.

Susan McKinnon shows in *Neo-Liberal Genetics: The Myths and Moral Tales of Evolutionary Psychology* the many ways in which cultures have different practices concerning leisure time, courtship, child rearing, and kinship relations, which can in no way be reduced to the simple explanation of behaviour given by WMDL. Pease and Pease show a highly reductionist attitude concerning human culture by explaining behaviour by only giving contemporary Euro-American illustrations. These examples hit home very effectively since they are so recognisable for the Western reader. The book is full of newspaper-reading husbands and wives who fail in reverse parallel parking. These examples are typical for a certain time and place, but are represented as universals. The authors expect and predict everyone from all over the whole world ever to behave similarly, including having similar gendered role patterns – e.g. woman nest-defender; man lunch-chaser – and the appropriate equivalences of fires for men to stare in after a workday of hunting. The cases above are Eurocentric because they assume that behavioural patterns which are ordinary for the western reader is also customary around the globe and even natural. Through the Eurocentric examples given that are subsequently assumed to be universal and innate, Euro-American gender stereotypes are reinforced.

Furthermore, in WMDL western civilisation is considered to be superior, based on a positivist/modernist view on cultures in which they develop linearly, with the western societies as front runner. Positivism supposes there is one full and complete account of everything that can be known (Hacking xxxiv). The facts are practically just waiting to be discovered. In this world view, human knowledge is continually expanded and improved and is thought to once be complete. Of course the West with its superior scientific skills is in this view suggested to be closest to the truth as can be seen in the following quotes:

> For most of our history, however, no connection was ever made between sex and babies, and there are still several primitive tribes who have not *yet* made this connection. (Pease and Pease 211, italics mine)

> By testing members of cultures from primitive races to sophisticated city dwellers all over the world, he […] came to the conclusion that women had superiority over men in general intelligence. (ibid.114)

First, the former sentence again demonstrates the abundant use of quantifiers of universality. Second, Eurocentrism becomes evident when other cultures are considered as primitive races and are clearly *behind* because the western world have attained universal valuable knowledge on sexual reproduction that they have not discovered yet. This way western civilisation sets the criteria for the competition that it meets best.

The picture painted by EP, and copied by WMDL, of living in the Pleistocene society can be seen as a 1950s American version of gender relations (McKinnon 116; Rose 141) or "a Flintstones version of history" (Barnett and Rivers 51): the woman stays home with the children and takes care of the 'house' while the man goes out to bring home the bacon. This is not a realistic representation of hunter-gatherer societies, if only because research among modern hunter-gatherers shows that the gathering women collect the biggest part of the food supply (McKinnon 76, 81; Barnett and Rivers 51).

McKinnon criticises the search for a "core mind set" by EP which erases cultural diversity. The "core mind set" is the presumed universal set of brain modules that is genetically encoded. This is the base of human behaviour and provides every human being with more or less the same behavioural output in the same situations. The assumption of such a core mind set has two effects: first, it naturalises dominant Euro-American assumptions about sexuality, gender, and kinship. By observing local behaviour and taking that as model to interpret exotic cultural practices EP-researchers are from the beginning not receptive for other ways of structuring life. Second, they do not need to defend their theories against arguments of diversity because they can explain them away by referring to the genetic core mind sets and consequently "effectively erase what we know about the complexity and diversity of human cultures around the world and across time" (McKinnon 116).

Heteronormativity

Why Men Don't Listen and Women Can't Read Maps has a clear and often restated objective. It is not to tell that women and men are better or worse than each other, but to show that they are different and to provide guidelines on how to understand and relate to the opposite sex and lead happier lives through happier relationships (Pease and Pease xix, xx, 8, 15), that is: a monogamous heterosexual relationship. It is a how-to book for heterosexual people, preferably couples. It makes sense that there is little attention to how other sexual

relationships are or can be since those people are not the target group. But it is peculiar at least that the gendered behaviour which is supposed to be innate and universal only makes sense in heterosexual interactions. The gendered division of labour that has since the Pleistocene have been woman nest-defender and man hunter only works when people are in a form of prehistoric 'marriage.' Following the authors' logic: why would a man give a woman a share of his hard-earned meat if not for the effort she puts in raising his children? Allegedly, people who did not have anything to trade – be it bearing and raising children in a monogamous 'marriage' or bringing home the bacon – would not receive anything and would stand outside of society. There is no place in EP's story of human nature/culture for people who do not interact in the heterosexual way. Thus, in WMDL and in EP at large, heterosexuality is not only a sexual practice or sexual orientation; it is a way of life.[10]

In the chapter "Boys Will Be Boys, But Not Always" (Pease and Pease 187-206), homosexuality is touched upon and the authors explain why some people are gay. The theory goes that if one has a gay gene that is activated by a shortage (for men) or a surplus (for women) of testosterone, one is very likely to become gay or transgendered (189-205). The objective of the authors is to show that since there is a biological difference between homosexuals and heterosexuals that cannot be influenced by upbringing or prayer, it is no-one's fault and we should be as accepting to homosexuality as we are to people who suffer from Parkinson's disease or autism (192).

While this objective is very fair, the way homosexuality is dealt with is highly problematic. By the mere mode of research the difference between heterosexuality and homosexuality is clearly demarcated. Heterosexuality is the norm; homosexuality is the deviant that needs research to investigate its origin (see for example the research done by Bailey and Bell; Allen and Gorski; Hu et al.). By only producing knowledge on the causation of homosexuality, homosexuality is objectified; made into a research object that the implicit heterosexual subject can scrutinise. This is the surest way to impose a dynamic of power on the research object. Moreover, Adrienne Rich has argued that not only homosexuals and homosexual practices are influenced by what she calls "compulsory heterosexuality," but heterosexuals and heterosexual practices as well, "for every heterosexual relationship is lived in the queasy strobelight of that lie [of innate heterosexuality]" (Rich 657).

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[10] Stevi Jackson argues in a broader context that indeed heterosexuality is not only a sexual practice but a way of life (107).

Furthermore, human sexuality is in scientific research extremely simplified by scaling it from 0 to 6 on the Kinsey scale, measuring sexual fantasy and behaviour with 0 qualifying as exclusively heterosexual and 6 as exclusively homosexual. Bailey and Bell conduct an analysis to provide evidence for familiality of homosexuality in which there are more bisexual (ranging from 2-4 on Kinsey scale) than homosexual subjects (5-6) but nevertheless the researchers speak in their conclusion and discussion exclusively about the familiality of homosexuality and try to find biological markers for this orientation. No biological causation can be significantly shown in this research however. Other researchers try to provide prove for gay genes (Hu et al.) or significant differences in brain measurements (Allen and Gorski). They all reduce complex human sexualities to a two poled scale ranging from heterosexual to homosexual as only options, ignoring people who have according to the Kinsey scale a bisexual orientation. A completely different sexual landscape would arise if people would for example be scaled from asexual to pansexual, but the same critique can be given here: asexual to pansexual is also not an all-inclusive scale and the idea of a two-poled scale is fundamentally inadequate. The point is that people like to have sex and prefer relationships in many different ways, including preferences for genders, characters, using certain objects in sexual play, relating in an intense emotional or sexual way to one or multiple partners, and people are able to change these preferences throughout one's life. Ranking one of these aspects on a two-poled scale is simplifying that specific aspect and making it all-encompassing for the vast landscape that is sexual orientation.

Instead, many scholars in Gender Studies but not only, have clearly argued that, as these preferences are highly mediated by culture – meaning that cultural norms play an immense role in the moral reception of some preferences and other preferences may derive their stimulating properties directly from the fact that they cross cultural boundaries of what is expected – research to their innate origins may be futile. As Gloria Wekker beautifully demonstrates in *The Politics of Passion* homosexuality is a Euro-American concept which carries with it the inbuilt "legacy of guilt, sin, disease, of notions of male activity and female passivity, of the 'natural' superiority of heterosexuality" (69) and cannot easily be presupposed to have the same meaning in other cultures. Nevertheless there is the reductionist tendency of EP-scientists and in WMDL to try to materialise a culturally loaded concept – which only has meaning in specific power dynamics – in genes, hormones, or brain tissue.

Conclusion

Eurocentrism and heteronormativity are both a hidden bias in many EP research. Both are assumptions concerning human innate behaviour and preferences and can be seen to be doubly assumed in WMDL as McKinnon (116) pointed out in the case of Eurocentrism: Western concepts and behaviour are presumed to be universal and by only including people in the research population that are of the same culture as the researcher, but presenting them as representative of the human species, those Western concepts such as heterosexual and homosexual cannot be contested. Hence, heterosexuality and Euro-American norms are first assumed to be natural and innate, and repeatedly confirmed in the research. The subsequent prove of the universality of the gendered role patterns, women´s spatial inabilities and men´s inability to multitask are then used to reduce cultural diversity to the same basic Eurocentric principles over and over again.

With the denial of their subjective position and representing WMDL as objective, scientific project, Pease and Pease do not recognise their biases and therefore cannot face them and challenge them. Like Shohat and Stam say, Eurocentrism – and I would argue with Rich heteronormativity as well – is the 'normal' perspective on the world (4) that is continually reinforced in popular media, and Pease and Pease are no exception.

Chapter 3
From Normative Turn to Religious Impulse

In this chapter I will argue that EP endows us with a new ethics which in a way replaces the role that Christian ethics has had in the Western world since the Middle Ages, and that this normative feature is one of the causes of its popularity among the greater public. First I will show where we can find a normative writing style – i.e. explicit or implicit prescriptions on how to act – in WMDL and research where this normative turn originates: is it solely in the popular adaptations or also in contemporary scientific research? What did Darwin have to say on deriving prescriptive statements from evolutionary theory?

Second, I will show that Christian (virtue) ethics were most dominant during the European Middle Ages and that secularisation in the time of the Enlightenment gave rise to new ideas about human origin and human nature, through which Christianity became less influential and Darwin's evolutionary theory grew more popular.

Finally, I will argue that EP's similarity to religion – consisting in the providing of an idea of human origin, aims of and in life, and normative guidelines – make EP as a science popular in the West nowadays.

Normative turn

As a handbook, WMDL shows not only why we are the way we are but also gives suggestions on how to deal with differences and confrontations between the sexes. It is a self help book written to give suggestions on how to behave to live a happier life. As the authors write:

> Our objective in writing this book is to help you learn more about both yourself and the opposite sex, so that your interaction and relationships can be more fulfilling, enjoyable and satisfying. (Pease and Pease xix)

Accordingly, Barbara and Allan Pease provide a wide array of (supposedly) useful tips to both men and women. For example, they advise men to drive at night and women during the day because of women's wide peripheral vision and predisposition for night-blindness, and men's

tunnel vision (27). They tell men what to say when their partner asks them which pair of shoes to wear with the dress she picked. She does not want to hear what he thinks, as they claim; she had made the choice herself and just wants confirmation. So ask her what she was thinking herself and tell her what an excellent choice she made and that she would look great (73-74). Meanwhile, women should never try to have a conversation with a man who is watching television or reading the newspaper. Do this and he "feels like he's been 'nagged to death'! 'All I want is a bit of peace and quiet!' is the cry of men everywhere" (86). After a long day of hard work he desires the modern-day equivalent of staring into the fire and he can only focus on one thing at a time due to his by generations of hunting developed tunnel vision. What does work instead is setting a time, place, and objective of the conversation, so that a man knows what the aim and duration of the conversation is (102).

There is nothing particularly wrong with giving people relationship advice, there are millions of books of the sort and many people are helped by them. Trouble arises when scientific knowledge – factual statements about the world – is employed to make normative claims,[11] especially when that scientific knowledge is itself in parts flawed. As taught by the 18th century philosopher David Hume, we cannot derive from what *is* to what *ought*. The first represents factual premises (something that exists or happened in the world) while the latter plays on the field of morality (what is considered to be right or good). According to Hume moral statements cannot be attained by reason alone as can factual premises. A logical mistake is therefore made when one simply transfers what *is* to what *ought* to be (Cohon n.pag.).

In the previous chapter I have argued that WMDL and EP in general are thoroughly heteronormative and Eurocentric. These two discourses have a strong normative effect: by representing heterosexuality and Euro-American traits and habits as natural all that deviates becomes strange and abnormal. Non-heterosexuality is marginalised by representing it as unnatural. It has no place in evolution so it is of no relevance to human nature and in that sense less 'real' than heterosexuality. Instead, sexual reproduction arranged in heterosexual couples is the heart and motor of evolutionary theory. The claim is that it is because of this form of reproduction and type of sexuality that we exist and we are who we are. In the conception of human nature in evolutionary theory heterosexual reproduction is of vital importance and hence deserves a high ontological status. Non-heterosexual sex is in this sense

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[11] Normative claims are statements that prescribe one how to act. In this case, they are thought to be universal since they are logically derived from the supposed universal human nature. Later in this chapter I will elaborate more on normativity and give clear examples.

nothing more than a contingent habit that is in no way related to the very core of one's being as heterosexuality is.

Something similar happens in EP's Eurocentric standpoints. Susan McKinnon demonstrates that by EP's assumption that Eurocentric notions of the family are natural and hard-wired because they were prevailing in the Environment of Evolutionary Adaptation (EEA)[12] the universality and naturalness of particular kinship relations is doubly assumed. First, Eurocentrism influences the way scientists conceptualise life in the EEA, and second, this Eurocentrism is naturalised by the conclusion that these kinship relations of the modern heterosexual nuclear family must consequently be hard-wired in our genes and minds. Cultures and tribes that adhere to this idea of kinship relations are included in EP research to demonstrate the rightfulness of the theory, and fitting animal species are used for analogies[13] to show the inevitability of certain behaviour. Societies and tribes that do not adhere to the heterosexual, nuclear family model are done away with as being too influenced by 'culture.' McKinnon notes that by this double move EP-researchers "need never put their theory at risk by confronting distinctly different cultural categories and, moreover, they effectively erase what we know about the complexity and diversity of human cultures around the world and across time" (p 116).

The naturalisation has a strong normative effect: unnatural is associated with morally wrong or at least with being not the most fruitful way of dealing with our genetic baggage and our naturally given assets. Whilst WMDL makes very strong normative claims, academic research on EP does this more subtly, but it nevertheless expresses strong Eurocentric and heteronormative assumptions, as shown in chapter 2.

In Charles Darwin no teleological tendency can be found (Wallace, McKinnon, Midgley). Teleology is the idea that nature or society moves towards a certain goal, that it develops and progresses in a linear manner, and that the different stages in development can be placed in a hierarchy of complexity and improvement. In the reading of Elizabeth Grosz, Darwin posits in his theory a world that is in continuous change, constantly differing from itself. Although he sometimes seems to use a teleological oriented language, or phrases that

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[12] Because evolution is a slow process the human species is not adapted to the current environment but to the Pleistocene African Savana where it lived as hunter-gatherers in small societies with primitive tools. Our biology is set to this environment and this is therefore called the Environment of Evolutionary Adaptation (EEA) (Vasterling, 4). See for evolutionary time lags – the inescapable out-datedness of our evolved state – Buss, 20.

[13] See McKinnon 124-7 for more information on cross-species analogies. She shows that to provide evidence for male dominancy in sexual interaction and female coyness some rare insect species are presented by EP scientists who have a same division of sexual productivity as humans are thought to naturally have. Closer to home, however, we can find primate species that have very different sexual behaviour.

might refer to an agency in nature or life, it is repeatedly argued that this is not the aim of his theory (Midgley, 38-39; Grosz, *Becoming Undone*, 4, 22). Darwin uses phrases such as "circumstances *favourable* to natural selection," "natural selection works for the *good* of each being," (368) and terms such as "success," "importance," and "improve." These are terms that imply a relation to a sensitive creature – maybe even human-like – who has something at stake when changes occur. Teleology and the implication of agency are closely related since an aim or goal – of which the development towards or deviation from is morally judged – must be important to someone or something. This someone or something can be Nature, Life, God, or Mankind, but at least there has to be an agent who plans and profits when reaching the goal. However, rather than intending to endow evolution with a telos,[14] Jeff Wallace asserts Darwin was struggling with a mere shortcoming of language (XVI).

Mary Midgley also contests that Darwin considered the existence of any agency in nature, hence nature can have no aim of itself. She demonstrates that Darwin shows both optimism and pessimism towards the process of evolution. Due to inaccurate and partial citations he is often represented as holding one of these approaches but Midgley sees a complex system which entails both an optimistic attitude in the description of nature's wonderful creativity and pessimism in respect to the element of competition. She claims that in contemporary evolutionary theory both these tendencies are often overstated resulting in the case of optimism in a teleological or so-called "Escalator Fallacy"[15] which proclaims that evolution is heading somewhere, that its products are ever *improving* themselves, that man is on the top of evolution and all other species are not as well adapted as the human species is; but will be eventually.

This is also called Panglossianism, after the character Pangloss in Voltaire's *Candide* who adheres to the philosophical attitude that this world is the best of all possible worlds and we should therefore not despair about all the things that seem horrible to us. Panglossianism or the Escalator Fallacy in evolutionary theory comes with a sense of meant-to-be-ness and sees human kind as final product of evolution. It also entails the idea that all natural human characteristics are for the good of the species: they have a practical origin. In EP every human trait is explained as having a logic in the EEA, in attempt to make sense of, for example,

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[14] Telos is the Greek word for 'end,' 'purpose,' or 'goal,' and is the root of the term 'teleology.'

[15] The Escalator Fallacy "is the [mistaken] idea that evolution is a steady, linear upward movement, a single inexorable process of improvement, leading ... 'from gas to genius' and beyond into some superhuman spiritual stratosphere." This idea was convincing to many evolutionary scientists such as Jean-Baptiste Lamarck and Herbert Spencer, but was never intended by Darwin, nor is it an accepted idea among contemporary evolutionary biologists (Midgley, 7).

fathers who murder their own children (see McKinnon 36). It may be argued by evolutionary biologists that due to the paternal uncertainty men are inescapably dealing with, murdering the children one is taking care of can be advantageous for the proliferation of one's genes since there is a chance the children are not one's own. While a truly miniscule fraction of the world's population would attempt this, it is a conduct that can be found in all cultures and all times and therefore, in EP logic, it needs to be an "adaptation." An adaptation is a trait with a functional role for the organism that is evolved and maintained by means of natural selection (Rose and Rose 2; Dover 58). This functional role is what the EP researchers are looking for, and they will argue that every behavioural trait is evolved as an evolutionary adaptation, that is, it was functional at the time of its emergence. In this way, all behaviours are rendered meaningful whilst it could be argued, as is done by Gould, that they may be simple occurrences in the chaos that inhabits our world and that they may not at all be reducible to an innate tendency to cope with particular problems in a particular way (108). Or in other words, in the example above, multiple incidents of the murdering of one's children may have very different causes that can be explained in multiple ways, instead of being an evolutionary evolved natural inclination that men cannot help themselves having.

Furthermore, not all inherited traits common to humanity are adaptations, that is, traits that evolved because of their use for the species at that time and place. Stephen Jay Gould calls these non-adaptive side consequences "spandrels" (113) and sees human ability for reading and writing as one of them. As he explains, human brains grew bigger and more suited for complex problem solving: individuals with the best cognitive skills were most (re)productive. A consequence was that people were, at one point in time, able to design a writing system, but our ability to read and write is not in itself an adaptation, since this ability is not evolved *because* people who could read and write procreated more. "Natural selection made the human brain big, but most of our mental properties and potentials may be spandrels" (Gould 124). Hence, organisms evolve as complex and interconnected wholes, not as a set of loose applications. Every change in the genetic makeup has effect on a range of different characteristics. Features or 'modules' that we see as separate are often strongly connected and the boundaries between the parts are not clear cut. Therefore classifications are for the sake of convenience and not descriptive of absolute boundaries. A lot of characteristics are therefore not selected one by one for their own 'attribution' to the fitness of the species but are side-consequences that may or may not become useful in a later stage (Gould 123).

Panglossianism or the Escalator Fallacy has the effect that scientists search for a reason behind every human behavioural trait, so that it can be viewed as an adaptation. But

the "messy richness" (Gould 118) that is reality does not always need to be explained by natural selection. Not every characteristic a species shows has effect on its fitness, but many came into existence by chance and did not affect the individual's abilities for survival (see Gould and Dover). Think of 'racial' differences between humans. Grosz argues, in line with Darwin, that traits we recognise as racial differences are more likely to be caused by sexual selection than by natural selection. With natural selection being the change of species over time influenced by the environment, sexual selection is the effect of mate choice that is not concerned with environmental fitness of individuals but with "attractiveness" (*The Nick of Time* 85-86). The best known effects of sexual selection are sexual differences such as the peacock's bright and simultaneously unwieldy tail feathers and the peahen's bleak coat, or differences in size between the sexes. However, the process of sexual selection can also account for the divergence between 'races' that "cannot be attributed directly or solely to the selective pressures imposed by the environment" (ibid. 85). Racial differences may be caused by sexual selection, as Grosz proposes, which she defines in terms of "attractiveness," (ibid. 86) but it can as well be understood as nothing more than the effectiveness of individual's procreation that can also be an effect of mere coincidence and chance rather than having a reason and meaning in a larger whole, which is implied by the term "attractiveness."

I argue that believing in reasons and larger wholes places one on a slippery slope towards teleology, which in turn provides a context for moral judgments. If teleology is the idea of an end or goal in a development of which the units are hierarchically ordered, then diverging from that aim is seen as morally wrong. Natural selection is the nature or origin of (human) life, thus corrupting it would be comparable to messing with 'God's plan.' Natural selection with a teleological bent and God's plan are both presented as good in itself, and therefore disturbing them is seen as morally wrong. Darwin did not have a teleological theory in mind, nor do contemporary evolutionary biologists. But some EP scientists, as Midgley argues, do show a belief in an almighty mover, be it God, Nature or Natural Selection. At this point a normative turn occurs since there supposedly is a right and wrong way to behave towards this mover and his plans.

The other extreme that Darwin did not tempt to, according to Midgley, is the radical pessimism about the ever enduring competition. Radical pessimism can be seen in the reductionist tendency to explain all behaviour by means of selfishness. This is most obviously done by Richard Dawkin in *The Selfish Gene* but pertains to most evolutionary theorists and is thus also a basis for popular scientific books such as WMDL. A species needs to be selfish to survive other related (sub)species inhabiting and consuming the same areas and resources; an

individual needs to be selfish to reproduce more than its congener; and a gene needs to be selfish to be copied more than its rivals. Stephen J. Gould argues that this one principle of evolution gets to be the centre point and all other facets are left out. This reductionism does more harm than good since it does not represent the reality of the complex processes in evolution accurately. Evolution is a historic reality and is and has been influenced by numerous factors, not only natural selection (Gould 103), as was already made explicit by Darwin himself (35). Evolution should be treated like the contingent history that it is rather than as a deterministic model.

However, reductionism becomes tempting because it is simultaneously a scientific virtue and a means to represent complicated theories in an understandable and attractive manner to the greater public. Occam's Razor[16] is a philosophical well-accepted principle of simplicity that argues that a more comprised theory with the same explanatory strength is better or closer to the truth than a more intricate theory (Baker n.pag.). But omitting essential elements of the multifaceted reality, as is often done in EP, is plain bad science. In chapter 4 I will elaborate more on the issues surrounding this radical pessimism.

However alluring these pitfalls are, Darwin did claim neither the radical optimism (Escalator Fallacy) nor the radical pessimism (reduction to selfishness) is in place but that these trends are in close symbiosis. There is at the same time constant proliferation of differences in species and individuals, as well as different forms of selection, natural selection being only one of them. Several scholars claim that the system entails no active mover and no goal (Wallace, McKinnon, Midgley). Nevertheless is there a noticeable normative turn in WMDL, which can be described to take two forms. First, it gives people guidelines on how to handle conflicts; and second, it is based on EP research which is fairly heteronormative and Eurocentric and is therefore normative in the way that every science has power through its production of knowledge. Science has the ability to claim what is right, good, and natural and consequently has a subtle normative effect, as is shown in chapter 2. Darwinism is no different in this respect, albeit worth mentioning that by Grosz' contemporary reading of Darwin's theory as a philosophy of difference (*The Nick of Time* 1-92) the theory in itself expresses a radical opposing against a stable ground for normative claims. EP research, on the other hand, holds on to fixed ideas of concepts from 'homosexuality' to 'testosterone' and is

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[16] The 14th century philosopher William of Ockham developed an argument saying it is rational to prefer a theory that commits one to a smaller ontology. A contemporary notation could be of this form: "Other things being equal, if T_1 is more ontologically parsimonious than T_2 then it is rational to prefer T_1 to T_2." (Baker n.pag.)

as a result more focussed on the unchanging, universal values in life than the philosophy of Darwin is.

Ethics and Morality

Now that the normative tendencies of WMDL and Darwinism have been explored, I will for clarity's sake elaborate briefly on what morality and ethics are. According to Bernard Gert, morality can be defined either:

1. descriptively to refer to some codes of conduct put forward by a society or,
    a. some other group, such as a religion, or
    b. accepted by an individual for her own behavior or
2. normatively to refer to a code of conduct that, given specified conditions, would be put forward by all rational persons. (n.pag.)

If morality refers to the rules that a person or society has (descriptive) or should have (normative) as guiding principles for good behaviour as defined by Gert, I define ethics as the practice of thinking about these guidelines. It includes the notion of an origin of the moral rules and why it is that they are good. Ethics is thus the totality of ideas of what is good to do and why it is good. (See for example Simon Blackburn's *Oxford Dictionary of Philosophy* "ethics.")

Different ethical theories may provide one with the same morals. For example, the moral statement 'stealing is wrong' holds true in both virtue ethics and consequentialist ethics (Van Dalen 31).[17] In the first, one ought to display the virtue honesty and therefore show respect to other's properties; in the latter one ought not to inflict harm on others as a consequence of one's actions as it is the case when stealing. The moral conclusion is the same, but the way it is attained is different. One might either take the person (virtue ethics), act (deontological ethics), or consequence (consequentialist ethics or utilitarianism) as central point of investigation to the moral value and this results in very different ethics but may give the same moral statements (ibid.).

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[17] The major ethical theories will be discussed in more length later in this chapter. For now it suffices to know that virtue ethics, deontological ethics and consequentialist ethics are theories that posit different topics at the centre of their theory and derive from that foundation what is morally good and what is morally wrong.

EP has its own ethics, consisting of a specific idea of what human nature is and thus how we should treat other people. WMDL gives normative guidelines concerning the interaction with human beings. I will explore later in this chapter what kind of ethics is used in WMDL but first I will go deeper into the Western history of ethics in order to show how evolutionary ethics fits into this discourse.

Replacing Christian Ethics

For the largest part of the European Middle Ages ethics was an attempt to interpret what one ought to do according to God, the Bible and the church.[18] Augustine (354-430) based his ethics on the fragments of what had remained of Greek philosophy but later, when more texts from Aristotle were translated in Latin and available to the western philosophers, Aquinas (ca. 1224-1274) made an effort to unite Aristotle and Christian ethics. Aquinas' ethical theory was mainly a virtue ethics with the foundation of morality lying in what was written in Christian texts and what could be comprehended through experience. In the sixteenth century Martin Luther and John Calvin both claim God's will is good, not because they happen to correspond but precisely because God wills it. In the West, religion and ethics had coincided for over a thousand years but in the 16th and 17th century ethics and religion were split by the rise of empiricism and rationalism. While the rationalists did not exclude God from their ethics it was mainly through the ratio that morality was accessed. Descartes, for instance, did derive morality from God but first had to rationally prove God's existence.

The by now most dominant ethical theories are the virtue ethics, which goes back to Aristotle and was central throughout the Middle Ages; deontological ethics, which was rationalist in kind and proposed by Immanuel Kant (1724-1804), asserting one ought to adhere to certain moral rules that can be uncovered by reason; and utilitarianism, by Jeremy Bentham (1748-1832) and John Stuart Mill (1806-1873) who state that to decide whether an action is good, one has to calculate at what rate people will obtain pleasure from it. The latter two moral theories only came into existence when religion and ethics split up. Nevertheless philosophers who made a split between the two – formulating moral claims through something different than God's written words – did not per se deny God's existence.

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[18] All text about ethics in this section is based on John Hare "Religion and Morality", excluding the last subparagraph.

With the recent developments in biology, genetics, and evolutionary theory, a new basis for morality is born. Most evolutionary scientists are antireligious (Nelkin 19) and do not trust upon the ancient religious texts on morality. Philosophers have also failed to come up with sound ethical systems and to give an intellectual satisfying account of morality according to some (see FitzPatrick). Now it is EP's turn to step in.

Morality and Evolutionary Theory

William FitzPatrick identifies in "Morality and Evolutionary Biology" three types of projects concerning evolution and ethics: descriptive evolutionary ethics, prescriptive evolutionary ethics, and evolutionary metaethics. Descriptive evolutionary ethics "appeals to evolutionary theory in the scientific explanation of the origins of certain human capacities, tendencies, or patterns of thought, feeling and behavior" (n.pag.). In this branch is sought for an evolutionary basis of morality. It is descriptive or empirical and not normative since it observes and describes morality without making moral claims itself. A normative theory would make claims on what one ought to do.

Prescriptive evolutionary ethics does give these normative claims. But before going deeper into the essentials of prescriptive evolutionary ethics, I will first give a short note on evolutionary metaethics. Metaethics is the inquiring of which ethical theory is just, if a moral truth or objective moral value exists and how one can know. Evolutionary metaethics can support, say, "a non-cognitivist account of the semantics of moral judgment (the idea that moral judgments do not purport to represent moral facts but instead just express emotions, attitudes or commitments)" (FitzPatrick n.pag.).

Prescriptive evolutionary ethics inquires what answers evolutionary theory can give to the question of how we ought to live. There are clear objections to the idea that whatever adaptations we inherited we ought to follow. Take for example promiscuity in men, which is said to be the best strategy for men to procreate (see Pease and Pease) and therefore the genes responsible for this behaviour are transcended through the human species so that the behaviour became an adaptation. Barbara and Allan Pease note that this is nevertheless not how one ought to act (this is not the same as saying men *ought not* to act this way). They argue that monogamous marriage has many advantages, not in the least the societal approval it gets, and thus modern man does not have to follow his natural inclinations (249). According

to FitzPatrick murdering step-children is described in EP as being an adaptation because this behaviour has as its consequence that one does not have to invest in children that do not pass on one's genes and therefore providing better care for children that do. This is, however, considered morally wrong from intuition as well as from most if not all serious ethical theories (FitzPatrick n.pag.).

More considerate attempts have argued that empirical evolutionary psychological studies can have normative ethical implications. FitzPatrick argues with reference to J.D. Greene ("The Secret Joke of Kant's Soul," and "From Neural 'Is' to Moral 'Ought'") and P. Singer ("Ethics and Intuitions") that our innate moral compass may be more closely related to a consequentialist ethics than a deontological one. Psychological research shows that human intuitive moral judgments react stronger to anticipated effects of acts than to strict moral rules. FitzPatrick also refers to J. Rachels who argues in *Created From Animals: The Moral Implications of Darwinism* that in history and in the present often presumed human moral superiority can be partly undermined by evolutionary theory. Since an important argument of this claim has been the extraordinary status of man in the creation of God, and evolutionary theory shows there is no clear distinction between human and other species, man's superiority loses an argument. Once accepted that we have moral duties, evolutionary theory shows that there is no clear boundary between humans and other species and thus provides an argument for our moral duties to also be extended to one's behaviour regarding animals.

Descriptive evolutionary ethics, prescriptive evolutionary ethics, and evolutionary metaethics are important types in the philosophical discourse on ethics and evolution but neither of the three directly applies to the normative attitude practiced in WMDL. The writers do not directly make claims about ethics and its relation to evolution. They do, however, offer a morality that is based on knowledge from evolutionary theory. It thus comes close to prescriptive evolutionary ethics but is not as nuanced as the examples given above. How exactly can we perceive this normative turn? What kind of ethics is used and what role does this normative turn play in the book?

First, I will look at the kind of ethics used. WMDL clearly displays multiple normative statements but normative is not the same as moral. Normativity is a necessary but not sufficient condition for morality. A recipe is normative because it prescribes how to act if you want to bake a cake or make a vegetable lasagne. In order to be a moral statement, a prescription also needs to be about an act involving other rational beings, say, humans. Telling someone how to dance a quickstep is normative and involves other people in the act, namely one's dance partner; however, dance moves are not considered moral. In order for a

prescriptive statement to be moral its end has to be good in itself. If one follows the dance moves correctly one can dance a *good quickstep* but the moves in themselves are not good or bad. Moral statements of the form 'one ought not to steal,' 'one ought to be honest,' 'one ought to show respect to the elderly,' or 'one ought to pay loaned money back' are good for their own sake. A person is not a good person for dancing a good quickstep or making a good lasagne. One is good when her actions and intentions are good. Thus, a moral statement is normative, involves other rational beings and is good in itself (Van Dalen 24).

Earlier I shortly mentioned the different focuses of the three major ethical theories.[19] Deontological ethics values the act that has been performed. If we take stealing again for example, a deontological ethic would say stealing is in any case morally wrong because the *act of stealing* is wrong. A virtue ethic might say one ought not to steal because one ought to show honesty and respect for other's properties for these *virtues* are morally good. However, depending on the situation the virtue ethic might value the act of steeling differently if, say, the thief shows fairness similar to Robin Hood. The consequentialist ethic values the *effect* of the act and might, alike the virtue ethic, judge differently depending on the situation. With stealing, someone is being harmed and this harm is an undesired consequence; therefore, stealing is wrong. But when more good consequences than bad ones are realised the consequentialist might say stealing in this scenario is morally good.

The ethics in WMDL resembles a consequentialist ethics in its aims. While a normative claim like "men should drive at night and women drive in the day" (Pease and Pease 27) is mostly practical and aimed at safety, most advises given in the book aims at making life better and the reader happier, as the following quotes show:

> Not only will this book help you come to grips with the opposite sex, it'll help you understand yourself. And how you can both lead happier, healthier and more harmonious lives as a result. (ibid. xx)

> We need to learn a new set of rules in order to discover how to be happy and survive emotionally intact into the 21st Century. (ibid. 15)

These quotes show that the book offers factual knowledge about the nature of Man and Woman that one needs to better one's life. In fact, one needs it to *survive*. The evolutionary jargon is applied to the everyday life which emphasises the relation between evolution and

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[19] In the Dutch *Basisboek Ethiek*, Wieger van Dalen comprehensively explains the basics of ethics and the three major ethical theories.

human daily interaction, and underscores the gravity of the normative statements made in the book.

The normative claims in WMDL are moral claims because they involve actions towards other people and pertain to the good life. When a man is reading the newspaper or watching television, you should not talk to him if you expect him to listen (Pease and Pease 81). When travelling by car to an unfamiliar destination, one should not let a woman navigate (ibid. 116). Men are not adapted to listen and watch or read at the same time so expecting them to do so results in harm done to both partners. The same goes for expecting women to navigate. It is wrong because you cannot expect her to live up to your request. From moral intuition one would likewise assert that you should not ask for money from a friend who has debts himself. Acts are good when they result in more happiness and a good life, which are goods in itself. The logic behind these claims is consequentialist because the normative statements are aimed at providing happiness – goodness – to the people involved.

With this theory of human nature based firmly in scientific ground, the gendered human possibilities and behaviours and therefore the normative statements are made universal: another prerequisite for moral claims (for the requirements of moral claims see Van Dalen). The significance of the book is expressed in the following quote:

> This book deals in facts and reality. It's about real people, authentic research, actual events and recorded conversations. (Pease and Pease 11)

The authors claim to be presenting the reader with the undeniable truth of human nature. They present the adaptations evolution provided us with, which are by definition universal (an adaptation is a characteristic of a species that evolved as a result of its contribution to its fitness (Dover 58)). Because the normative statements are based on the universal human nature, the statements themselves must be universal applicable. Universality is, together with normativity, relating to human interaction, and being good in itself a necessary condition for a moral claim (Van Dalen 13-14).

In short, the Peases do make moral claims because the statements are normative, relate to human interaction and the good in itself, and are universal. Their ethics are consequentialist in type because the objective of the book is to make people live happier, more fulfilling lives as a consequence of their advices. This normative turn is part of the books popularity, as is shown in the following review by Surprise on the Dutch post-order website Bol.com: "If only

I would have read this thirty years ago, my life could've been so different!"[20] This is but one example of the fact that the significance of the book seems to lie in its ability to improve one's life with its guidelines.

The moral turn that is made in WMDL is apparently something that is appreciated and desired by a large audience, otherwise it would not be as popular as it is. Evolutionary theory provides a relatively new way of grounding morality that is independent of religion. Evolutionary ethics thereby fits into the trend that since the end of the Middle Ages has started to remove God from ethics. It hence replaces one of religion's major features, but can also be said to mirror religion in its aims.

Religious impulse

The final section of this chapter will be dedicated to the ways in which the story told in EP mirrors religion as is argued by Dorothy Nelkin and Mary Midgley. I will first argue that an resemblance can be seen between the Christian story of the fall from grace, and the story underlying WMDL. Then, I will represent how Nelkin and Midgley understand the relation between evolutionary theory and religion.

An analogy can be drawn from the Christian trope of the fall from grace to the motivation of WMDL to give normative guidelines. Barbara and Allan Pease show the reader how life was in the Pleistocene when it was pleasantly working for both sexes (12-14), but somehow somewhere it went awfully wrong. Role patterns were disturbed and so was the relationship, making mankind struggle to find its way back to ways of living that will make its lives and relationships truly happy again (15). The Peases can tell you how to do this. This mirrors the trope of the paradise in which Adam and Eve were happy and satisfied until something terrible happened. Now the only way to arrive to the paradise again is to follow a pre-given set of rules. In the Christian story this set of rules is given by God; in the EP story it is given by Natural Selection. In both stories two characters are present: Adam and Eve; Man and Woman. Both couples were happy and satisfied with their lives until Eve was persuaded to pick the apple and until Woman decided the life her foremothers had lived was not enough for her. As Pease and Pease write:

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[20] "Wilde dat ik dit 30 jaar geleden had gelezen, dan was mijn leven wellicht heel anders verlopen!" posted on February 26, 2010. URL= http://www.bol.com/nl/p/why-men-don-t-listen-and-women-can-t-read-maps/1001004000970855/ last visited June 5, 2014.

> If you were born before 1960, you grew up watching your parents behave towards each other based on the ancient rules of male and female survival. Your parents were repeating the behaviour they learned from *their* parents who, in turn, were copying *their* parents, who mimicked *their* parents, and back it goes to the ancient cave people in their clearly defined roles. (15, emphasis original)

> For modern men, not much has changed over the centuries … For modern women, however, many of their priorities are quite different to those of their mothers and grandmothers. Many women have chosen professional careers because they want some of the things men have: money, prestige and power. (275-276)

I will not go into this over-simplification of the gendered role division but into the structure of the story that is being told. The authors do not explicitly blame women for the "chaos, confusion and unhappiness" that reign after "the old rules have been thrown out" (ibid. 14). Rather, they plea for a revaluation of women's skills and roles. "Men and Women are different. Not better or worse – but different" (ibid. 275). Only when one follows the rules set out by the Peases, one can get back to the paradise that was taken from us: the Pleistocenic time where Man and Woman are both happy with their lives, appreciated their partner for his or her skills and derived their self-worth from the completion of their own tasks. The only difference between the EP story and the fall from grace is that, according to WMDL we can get there in this lifetime, while in the Christian tradition we have to wait until this life is over before we can be rewarded for our good behaviour.

This is not the only way religion is resembled in WMDL's use of EP. Dorothy Nelkin speaks of the *religious impulse* among EP scientists. Following the *Random House Dictionary*, she defines religion as

> [A] belief system that includes the idea of the existence of 'an eternal principle … that has created the world, that governs it, that controls its destinies or that intervenes in the natural course of its history.' Believers understand this eternal principle – whether a God or a powerful idea – to be the key to all knowledge, the explanation of history, and the guide to the conduct of everyday behaviour. (18)

Nelkin argues the religious impulse consists of three aspects: giving an all-explaining narrative, using religious rhetoric and deriving moral arguments from the theory. Looking at

the definition given above, EP does precisely offer a believe system that includes an eternal principle that is all explaining about the nature of humanity. In WMDL every human behavioural trait can be explained by the principle of evolution. Even the non-typical traits such as homosexuality (187-207), and good navigational skills in women (182) are explained by biological principles. These "beliefs are not theistic; they are not necessarily based on the existence of God or a spiritual entity. But they do follow a religious mindset that sees the world in terms of cosmic principles, ultimate purpose and design" (Nelkin 21). Mary Midgley similarly argues that science has 'like the great religions and unlike more casual local faiths, large-scale ambitious systems of thought, designed to articulate, defend and justify their ideas – in short, ideologies' (17). She adds that contemporary science in general is like a religion because every scientist needs to have faith in other overlapping disciplines since it is impossible to understand the scientific groundings of every principle. Every discipline has its own groundings and ideologies. But recognising your own ideologies is notably harder than recognising alien ones since the latter are not habitual (ibid. 26).

Additionally, EP scientists use biblical rhetoric in describing their theory and so the genome has gone by many names, including the "Bible," the "Book of Man" and the "Holy Grail" (Nelkin 22). Evolutionary theory is characterised as "a sacred story" with "spiritual meanings," and "a tool for spiritual grounding" (ibid. 29). At the same time they display "missionary fervour" (ibid. 23) in converting the greater public to their believes because they see a possibility to moral guidance in their theory. Nelkin gives examples of normativity in policy agenda's which are larger scaled than the normative passages in WMDL that I have shown above. She elaborates on writers who actively support the idea that women belong in the kitchen and proclaim society should not invest in women's job training and childcare programmes. The claim is that, after all, due to evolution women are just better fit to take care for children and the household and men to do the professional work (ibid. 26). Those scientists feel no urgency to be politically correct since they have science on their side. Pease and Pease write that political correctness is an outdated concept. It was originally intended to combat sexist attitudes but since it is not supported by the majority of people that completed their survey they claim feminist ideals will never be realised (282-283). As Nelkin writes: "Evolutionary explanations combine the credibility of science with the certainty of religion" (26).

Nelkin notes that the religious impulse among EP scientists may be an "adaptive strategy" to bring science and religion closer together, but it is undoubtedly also a technique of commercialising scientific theories for a broader unscientific audience (30). The religious

metaphors and cosmic claims of all-explaining theory appeal to them, and, I would add, so does the clearly scientifically based morality.

Conclusion

Why Men Don't Listen and Women Can't Read Maps stands in the tradition of EP which is more than other sciences filled with religious tendencies, the most important being the ability to provide moral guidelines. Darwin's theory is strongly anti-teleological and emphasises the continuous changing state of the world and therefore leaves no stable ground for a universal morality. However, EP, while based on Darwinism, did provide teleological claims and implied agency of an almighty being that guided evolution. This Escalator Fallacy is a persuasive misconception that people are perhaps partly guided towards by the constraints of language – i.e. it is hard to describe evolution without using language implying teleology and agency – but it also seems to be a conception that gives meaning to life.

There are subtle normative inclinations in contemporary EP research that favour heterosexuality and Euro-American values. These dispositions seep into WMDL and are here accompanied by strong moral claims on how to behave. I have argued that the normative claims in WMDL are indeed moral statements by showing how they pertain to behaviour towards people, are good in themselves and claimed to be universal. The ethics underlying the made claims comes close to prescriptive evolutionary ethics, the theory in which moral statements are derived from evolutionary biology, but the ethics in this pop-scientific book are not as nuanced as serious philosophical accounts.

It is argued that EP does resemble religion in other factors as well. I argued that Christianity and EP have a surprisingly similar origin story and Midgley and Nelkin have showed how EP gives, just like religion, an all-explaining narrative and uses religious rhetoric.

Situated within the theories of EP, WMDL is a book that offers a story that answers who we are and what we should do. It fits perfectly in the movement to define morality less and less with reference to God's will but at the same time, as it also moves away from Darwin's philosophy, the theory is shaped more and more as a religion.

Chapter 4

Agency, Neo-Liberal Economics and Memes

This final chapter deals with the units of evolution and their interaction, or economics, as I will show to be a fruitful figure of speech. What are the units of evolution and what kind of character do they have? How do they interact and how can we perceive the various layers of human biology, i.e. the genes, the cells, the individuals and culture? What role does agency play in this? I will show that another underlying narrative of WMDL and EP in general, is very similar to neo-liberal economics and that a certain similarity can make a theory more successful, but I will also provide an example in which it does not quite work out.

In the previous chapters I have demonstrated that a major pitfall of popularising evolutionary theory is the tendency to use a teleological language. Moral implications usually follow shortly or are already implicit in the research methodology. Joined with the all-explaining potential evolutionary theory is given, the comparison with religion is not too far-fetched. Likewise, mimicking of and fertilisation by evolutionary theory is also done by other disciplines. I will explore what the commonalities between evolutionary theory and neo-liberal economic theory are. Additionally, I will explore the concept of *memes* as unit of cultural ideas, as described by Richard Dawkins in *The Selfish Gene*. I will first look into the concept of agency and what 'unit' will be endowed with it. It should be already said that in evolutionary theory this is often the gene.

Agency and Determinism

There is an interesting friction in WMDL between the biologically determined human body, and the human agent, the reader, who has a choice in his or her actions. In this paragraph I will elaborate on the concept of agency and what element is endowed with it. EP argues people are partly biological determined and henceforth the individual loses agency.

WMDL is a self-help book for the person who wants to take control of his or her own life. But there are limitations to human capabilities and those are described in the book. In metaphysics, determinism is "the idea that every event is necessitated by antecedent events

and conditions together with the laws of nature" (Hoefer n.pag.). This stands in direct opposition to the notion of agency: the idea that rational beings make their own autonomous choices and are subsequently responsible for their decisions (S. Buss n.pag.). According to this kind of determinism, an omniscient being or maybe even a genius mathematician would be able to predict my choices in life with knowledge of the world at time *t* and the natural laws that intermediate it with the present. If this is the case, it is hard to believe I can make my own decisions at this point in my life when the state of the world 1,000 years ago, combined with the natural laws already determined what I will do. In deterministic philosophy, the causal natural laws are what will determine what I will do, and not something we call free will.[21]

Determinism in the context of evolutionary theory is conceptualised a little lighter, namely as the idea that humans (and certainly less rational beings) have limited capabilities to choose what they do because nature attributed them with certain inclinations. Barbara and Allan Pease note in their first chapter:

> The evidence presented here shows that the sexes are intrinsically *inclined* to behave in different ways. We are not suggesting that either sex is bound to behave or should behave in any particular way. (9, emphasis original)

This is one of the scarce passages where they do say that they do not make normative statements and that not every woman and every man is the same. However, in the majority of the text they do make numerous rushed generalisations and plenty normative statements based on them. But the bottom line is: the sexes have certain inclinations that differ from each other and people cannot help it. Men cannot help that they can only focus their attention on one thing at a time; it is natural (Pease and Pease xvii, 54-55). He is therefore not *responsible* for this incapability, nor can he do anything about it. Humans are at least partly determined by their biology and thus have limited agency.

According to the Peases, human bodies are operated by either their brains, hormones, or their genes. They do not shy away from using reductionist language without any nuance: "We are who we are because of hormones. We are all the result of our chemistry" (56), just as it is "all in the mind" (41). This reductionism from a variety of behaviour to a universal brain structure build by the genes is the core thesis of EP (Vasterling 6) and is also fairly

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[21] There are the compatibilists in analytical philosophy of mind who argue that a) the world is deterministic, and b) that free will nevertheless exists (McKenna n.pag.). This is however not a common conception in the scientific discourse so I will not address that discussion in this thesis.

deterministic in the sense that it leaves little room for human agency. This can for instance be seen in the following quote:

> Infatuation is the brain's attempt to form a bond with a potential partner and it is an emotion so powerful that it can cause incredible euphoria. If someone is rejected it can also cause extraordinary despair and can lead to obsession. In extreme cases, it can even end in murder. (Pease and Pease 254)

Human capability to own one's emotions is neglected. Committing a murder is reduced to a state in the brain started by the infatuation that uncontrollably via causal laws leads to the act of killing. Just as the choice for a partner is reduced to processes in the brain:

> When you both kissed, your brains made a rapid chemical analysis of each other's saliva and it made decisions on your genetic compatibility. The woman's brain also made chemical determinations about the state of the man's immune system. (ibid. 171)

The mind does all kinds of things we are not aware of. A couple of pages further Pease and Pease tell the story of a woman who did not know what happened when she ended up in bed with a man after a night out. She had never done that before and she did not know how to explain it. This is however common among women during the time of their ovulation, according to the authors: "many describe it as 'fate' or 'a strange magnetic attraction', instead of understanding that their hormones simply took control" (175). Agency is given to hormones, genes and unconscious processes in the brain. These lead people to do things they, in their conscious mind, do not understand.

On the other side, EP super hero David Buss performed a by now famous cross-cultural experiment in which he researched what qualities heterosexual men and women are looking for in a partner. He argues that the outcomes support his claim that women look for industrious and wealthy men, and men look for young and pretty women (D. Buss 12). This outcome is in accordance with the parental investment theory, which states that the woman developed a qualitative strategy to reproduce and man a quantitative strategy, due for the unequal time they have to invest in the respective being pregnant and rearing the child, and the impregnation (ibid. 1). This research does imply a rational decision in partner choice, albeit influenced by evolution.

A slightly more modern Cartesian dualism seems to emerge here: the body is a machine that acts according to mechanisms that are more and more well understood by

scientific progress; but the conscious, subjective mind cannot understand what its own body is doing, nor prevent it. The unconscious mind works with modules that cause behaviour (Pease and Pease 10; McKinnon 19-23). Such a module is like a program that can be activated by certain triggers and sets certain behaviour in motion. Pease and Pease give the following example: if you put a duck in a pond it will start to swim because of its 'swimming module'; give a girl a Barbie doll and a boy an Action Man and they will start to play with it. This is not the work of stereotypes and social conditioning, but because of the different modules for playing and the corresponding triggers present in boys and girls (Pease and Pease 10). Modules are black boxes that process the environmental input and produce a behavioural output. How it works is not specified, neither what its biological materiality consists of. McKinnon argues that this simplification of mental processes cannot account for human flexibility and creativity in an ever changing world. The modules "act, rather, as mechanical translator of the 'thinking' that natural selection does into the 'doing' that humans do – without requiring that humans actually think about anything at all" (McKinnon 22). The human mind is left an empty shell; epiphenomenal to natural selection. This epiphenomenal mind McKinnon calls "natural selection's shameless ploy" in which emotions, morals and personal motivations are nothing more but an effect and cover up for genes plotting their next move in the battle for reproduction (17).

However interesting the reductionism to brain modules and surging hormones are, due to lack of space I will leave those subjects to someone else to analyse further. I want to take a closer look into the reductionism to genes. Though not often referred to in WMDL, genes are an essential part of evolutionary theory. It is the theory of genetics that makes neo-Darwinism 'neo.' By combining Darwinism with a unit of inheritance unknown to Darwin – the gene – evolutionary theory took a flight and gained immensely in its explanation power (Gould 116). So however not often mentioned in WMDL, genes are seen as the core of the theory of evolution and thus of evolutionary psychology. Whether or not I (should) agree on the thesis of genetics as core of evolution does not matter here. I am investigating the narratives behind EP, and in the evolutionary scientific discourse genes are seen as essential so this "genocentrism" (Vasterling 4) is worth my scrutiny.

Genes

What the Peases do write on genes is extremely teleological and hierarchical. In the previous chapter I have explained how evolution is neither of both. It was not intended by Darwin as such and it is still not conceived as such in serious evolutionary theory (Wallace xvi; Grosz *Becoming Undone* 4, 22). Writing about evolution as if it is a steady upward movement – the escalator fallacy – is a common pitfall mostly among popular writers (Midgley, 33-39). But even Darwin shows phrases that can be interpreted as if nature has a cause and species *want* to evolve (368). Darwin may often be excused for this by critics of EP, but the same does not go for the EP-scientists. Darwin is generally perceived as a revolutionary hero who contributed to the modern day understanding of the world; however, EP scientists, who try to claim evolutionary theory has implications for social behaviour among humans, are not seen as such and are hence strongly criticised.

A good example of what can go wrong when one tries to popularise scientific theory is the following quote on the emergence and development of cells and genes from Pease and Pease:

> Once the new cell was created with its stronger genes it was necessary that the parents died. This was for two reasons. Firstly, the new cell was better than the parent cells so the parents were unnecessary. Secondly, the parents needed to be removed so that they did not breed with the new cell and thus, weaken it. Death meant that the new, stronger gene could survive and share its genes with other new survivors. So the original purpose of sex was to trade genes with someone else to create stronger genes in the next generation of babies. (210)

The notions of necessity, being better, stronger or weaker than another cell do not apply in evolutionary theory. At best one can say in a certain environment some molecules, cells, genes, species, or individuals are better adapted to that specific environment than others, all things being equal. But without further context no cell is weaker or better, and evolution is never a necessity, it just happened to have happened. The death of older entities is never a necessity and sex never had a *purpose*. The emergence of two separate sexes is a historical contingency (Grosz *The Nick of Time* 67).

What are these genes exactly? They are what DNA consists of and what defines our genetic inheritance (but of course it does not define humanity, and although one's DNA is unique, except for monozygotic twins, it does not define a person). In the words of ethologist,

evolutionary biologist and author of the popular-scientific book *The Selfish Gene* Richard Dawkins:

> A DNA molecule is a long chain of building blocks, small molecules called nucleotides. Just as protein molecules are chains of amino acids, so DNA molecules are chains of nucleotides. A DNA molecule is too small to be seen, but… it consists of a pair of nucleotide chains twisted together in an elegant spiral; the 'double helix'; the 'immortal coil'. The nucleotide building blocks come in only four different kinds, whose names may be shortened to *A*, *T*, *C*, and *G*. (22)

A varying quantity of nucleotide pairs forms one gene. Dawkins uses a metaphor to explain how genes and chromosomes are organised: an architect owns a large collection of volumes in which her plans for a building are described.

> I shall make use of the metaphor of the architect's plans, freely mixing the language of the metaphor with the language of the real thing. 'Volume' will be used interchangeably with chromosome. 'Page' will provisionally be used interchangeably with gene, although the division between genes is less clear-cut… Incidentally, there is of course no 'architect'. The DNA instructions have been assembled by natural selection. (ibid. 22-23)

In humans 46 volumes are present, divided in sets of two of which each page corresponds. Twenty-three volumes are inherited from the mother and 23 from the father (ibid. 25). The pages and genes can only be read in addition to each other. Many pages may be describing the same element but pages only make sense together. In the forming of sperm and egg-cells one of two corresponding pages is chosen so the sperm or egg-cell contains precisely 23 complete chromosomes or volumes. Genes do have special symbols coded in nucleotide letters to sign their start and end, however, in the splitting of chromosomes, these demarcations are not always respected.

> The metaphor of the page for the gene starts to break down here. In a loose-leaf binder a whole page may be inserted, removed or exchanged, but not a fraction of a page. But the gene complex is just a long string of nucleotide letters, not divided into discrete pages in an obvious way at all … If we wish, we can define a single gene as a sequence of nucleotide letters lying between a START and an END symbol, and coding for one protein chain … But crossing-over [the shuffling of pieces of DNA in sexual reproduction] does not respect boundaries between

> [genes in this definition] … In the title of this book the word gene means … something more subtle. My definition will not be to everyone's taste, but there is no universally agreed definition of a gene … A gene is defined as any portion of chromosomal material that potentially lasts for enough generations to serve as a unit of natural selection. (ibid. 28)

Dawkins explanation of nucleotide, genes, chromosomes and DNA seems to me non-controversial, accept, as he notes himself, the definition of the gene.[22] I find this definition rather non-Dawkinian in its awareness of continuing chance and its recognition that nothing is in fact immortal; genes as well can be torn apart when parts of DNA cross-over to form a new DNA molecule.

Geneticist Gabriel Dover attacks Dawkins on the prominence given to genes in evolution. According to Dover, Dawkins sees the gene as the unit of evolution; the element natural selection selects, while there is no actual unit of selection since all units are constantly changing (56). Dawkins seems to have taken this critique into account when noting in the introduction to the latest edition of *The Selfish Gene*:

> There are two kinds of unit of natural selection, and there is no dispute between them. The gene is the unit in the sense of replicator. The organism is the unit in the sense of vehicle. Both are important. Neither should be denigrated. They represent two completely distinct kinds of unit and we shall be hopelessly confused unless we recognize the distinction. (ix)

Both kinds of units – the gene and the organism – are important and offer valuable insights; there are two irreducible perspectives (xvi). However, in other fragments Dawkins clearly states that indeed the gene is the unit of natural selection and that 'selfish' refers to the level on which natural selection acts (viii).

As the unit of inheritance, genes are transferred from the one individual to the other and, in interaction with RNA and environment, they produce a certain phenotype. It is the phenotype natural selection selects argues Dover (65). Genes of different individuals do not directly interact; individual phenotypes do. 'The paradox of the organism' as described by Dover (58-59), poses the question how it is possible that complex organisms come into

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[22] I am not a biologist and did know very little of the structure of DNA before I entered this project. Since Dawkins is a controversial writer in the field of evolutionary biology I might be taking a risk by choosing to quote his explanation of the DNA. However, I find it very comprehensively put together and could not find any discrepancies in the less eloquent Wikipedia article, nor does this passage conflict with the articles I read of Stephen J Gould. Additionally, I asked a friend with a degree in biology, whom I love and trust, to check if I had a good understanding of the matter. She did not find anything controversial.

existence when genes only want to copy themselves. Dawkins recognizes this paradox discreetly when claiming that all genes somehow know what the ultimate state of the individual or phenotype is and that they co-operate to establish this state (ibid., 59). In Dover's view Dawkins abandons his idea of the selfish gene and gives the genes a kind of magic consciousness of their own.

Selfishness is, in Dawkins's definition, not an intrinsic quality of genes but a description that can be made in hindsight. An entity can be described as altruistic "if it behaves in such a way as to increase another such entity's welfare [change of survival] at the expense of its own. Selfish behaviour has exactly the opposite effect" (4). He argues that the genes that exist now and have existed over a long stretch of time meet the criteria of a) longevity: the longer one lives, the more time one has to replicate; b) fecundity: this is the speeds of replication; c) accuracy of replication or replicating fidelity (Dawkins 17-18). These are three factors that influence the eventual frequency of particular genes in the population. If their commonness is high they must have fulfilled these requirements and can therefore be called selfish. This is thus not a subjective description of their inner life world and motivations as in the colloquial use, but a behavioural definition.

So while Dawkins defines his concepts very carefully with much awareness of the non-teleological evolution and the lack of consciousness in molecules, genes and DNA, critics like Gould, McKinnon and Dover still see tendencies of endowing genes with magical powers. Either way, what is of importance in this thesis is the story that is being told. The scientific theory, however accurate as a tool for understanding and predicting reality, always comes with its own drama (Midgley *Evolution as a Religion* 4); the fabula can only be known through a story (Bal 5).

Economy

One of those stories is about the economics of genes, as notably described by anthropologist Susan McKinnon in *Neo-Liberal Genetics*. According to many evolutionary biologists the genetic focus solves the mystery of neuters[23] and non-reproductive individuals among species; a problem that Darwin already found himself confronted with (Grosz *The Nick of Time* 83). If

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[23] Darwin defines neuters as "Imperfectly developed females of certain Insects (such as Ants and Bees), which perform all the labours of the community. Hence they are also called *workers*" (387). In the contemporary common sense 'neuter' denotes animals that cannot reproduce.

all individuals would struggle for existence and procreation, non-reproductive individuals should not exist, since the mechanism responsible for the non-reproductivity would not be inherited by anything. A related problem that is solved by the shift to genes as unit of selection instead of individuals or species is the existence of altruism. If all species would struggle to live the longest and procreate the most, how come that we can see genuine altruism among humans and other species? This kind of behaviour does not benefit the self and reduces the times one can procreate, therefore reducing one's influence in the gene pool. The inheritable mechanisms responsible for this behaviour would be less and less transmitted since individuals exposing this behaviour will have less offspring than the ones who do not. The next generation will resemble their ancestors who exposed selfish behaviour and by extrapolation the altruistic inclinations will disappear from the population.

From the genes' perspective, however, altruism among related individuals can favour certain genes. By helping one's sibling to procreate 50% of one's own genes are handed on to the next generation. For the gene it is thus not always necessary that the phenotype shows selfish behaviour: "The gene is fundamentally, even in the case of altruism, in the language of Dawkins, selfish!" (Grosz *The Nick of Time* 81). The gene's perspective may explain obstinate problems but it also leaves out human agency and does not do right to varying cultural practices. Vasterling calls this tendency to reduce every aspect to the interaction of genes "genocentrism" (4).

This way of explaining altruism is called 'inclusive fitness' (D. Buss 12-14) and is according to Susan McKinnon one of two ways in which altruism is elucidated. First, a family shares a fair share of genes and taking care of one's children, siblings or cousins can therefore result in the proliferation of one's genes. The percentage of shared genes will in this case be defining the degree of altruistic behaviour. The second is reciprocal altruism (described by Robert Trivers and others), in which individuals do something for another in the hope they will eventually benefit from it. Social relations with non-kin would all be of this kind; two individuals expect both to benefit from the relation (McKinnon 47). Anthropologist Marshall Sahlins notes that this kind of altruism could not be an adaptation because in helping someone else, one also increases the other's chance in reproduction. Subsequently "both altruism and non-altruism are gainful, thus 'adaptive'" (Sahlins qtd. in McKinnon 48). In the words of Hilary Rose: "used like this selection explains everything and therefore nothing" (147). Either ways, EP has a way of clarifying all behaviour by means of selfish genes that only interact for their own profits. All behaviour eventually comes down to the interaction and exchange between them which is fundamentally selfish.

McKinnon calls the reductionism that underlies evolutionary theory "genetic individualism" (43). This is the idea that in the end, every action of the individual is motivated by self-interest.

> By genetic individualism, I mean a conception of human social life that reduces social relations and human behavior to the product of self-interested competition between individuals. (ibid. 43)

This take on social interaction is problematic if we take the anthropological record full of diversity in social interaction and kinship bonds into account. Different cultures have different kinship relations in which some have strong bonds with genetically unrelated relatives and less or no bonds with genetically close individuals (ibid. 53). According to McKinnon, genetic individualism clearly derives its basic values from another popular theory that explains global social movements: neo-liberal economic theory.

> The notion of genetic individualism relies, explicitly or implicitly, upon the cultural values of neo-liberal economic theory: that social relations can be reduced to market relations; that the 'public good' should be replaced by individual responsibility and social services privatized; that profit and capital should be maximized through the deregulation of markets – that is, that competition should run its course unchecked – in a 'race to the bottom' – regardless of the social consequences. (ibid. 43-44)

Neo-liberal economic and evolutionary genetics "implode upon one another" (ibid. 71). Because genes are all selfish, each of them tries to gain the most profit with the smallest investment. The maximisation of economic and genetic self-interest are rendered inseparable. The 'invisible hand' of the market is mirrored in the belief that life, through natural selection, regulates itself by preferring those that generate the highest (re)production (ibid.).

Both the proliferation of neo-liberal economics and genetic individualism originate from a logic of selfishness. The first needs selfish individuals who maximise their profits so that this will help the economy in total. Similarly, genes struggle for their own survival and thereby enable evolution by creation of the fittest species. By mirroring each other the two theories also strengthen each other in the scientific discourse. Which one was first does not matter at this point. Which is modelled on which is not important because they are by now completely interweaving as McKinnon points out. According to the dominant discourse, capitalist economics works, so it must be true that the system can regulate itself; and there are

complex creatures to prove natural selection works, thus the system based on selfishness must be natural and appropriate. Two distinct theories based on the same principle are a dream for the reductionist scientist who wants to have an all-explaining narrative. But as Midgley point out in "Why Memes?" all-explaining narratives are not sufficient because different disciplines ask different questions, they have different aims, and should therefore not be united. In the next paragraph I will discuss Midgley's ideas in more length.

The fact that the mirroring of neo-liberal economic theory and evolutionary theory goes largely unnoticed is a sign of the power the discourse of selfishness has, as Foucault would argue. According to Foucault "power is tolerable only on condition that it mask a substantial part of itself. Its success is proportional to its ability to hide its own mechanisms" (*The Will to Knowledge*, 86). Hence, the more invisible a tendency is, the more powerful it is. The reductionist dream of uniting all sciences results in a central role of selfishness, but recognising this as a contingency places a spotlight on the arbitrariness of the idea of fundamental selfishness.

Memes

In the following paragraph I will give an interesting example of the way in which evolutionary theory is by some seen as an all-explaining narrative not only in the physical sciences but also in the social sciences and humanities. For this I will use Richard Dawkins's *memetics*. Memetics can be seen as the Origin of Ideas: the use of evolutionary theory's structures to explain which ideas will range widely and which will not. In EP, human behaviour and psychological life world is explained as a consequence of evolutionary biology. The existence of a psychological, subjective life world is an evolutionary adaptation that has different natural laws than the ones guiding evolution. Contrary, Dawkins's memetics makes use of the same categories of the proliferation of genes in evolutionary genetics, as in memetics to account for the proliferation of memes or ideas.

I argue that Dawkins shows what I call theoretical mimicry. With theoretical mimicry I mean the use of a successful theory of one discipline in another discipline, where the essential units are replaced but the structures and relations between those units largely remain the same. I derived the term mimicry from its biological concept denoting a species that mimics another species as an adaptive strategy. The larva of the hawkmoth *Hemeroplanes*

Ornatus, for example, "puffs up its head and thorax when disturbed, looking like the head of a small poisonous snake" (Reece et al 1243). This way it scares off species that might want to eat it. In North and South Carolina the non-venomous scarlet kingsnake mimics the venomous eastern coral snake in its bright black, red and yellow colouration. Predators have adapted to not attack snakes with this colour (it is unlikely that they learn this by trial and error for a first encounter with the venomous coral snake is usually deadly) and other species adapt to represent the dangerous species (ibid. 67). In the biological definition this is a form of co-adaptation wherein species are adapted to each other and their likeliness is what keeps the non-venomous species safe from predators (ibid. 1243).

The same goes for the theoretical mimicry: a form or adaptation of a certain theory is fruitful and another discipline simulates it to profit from that success. These two disciplines mirror each other and may develop together if they get the chance. I do not suggest the mimicking of one discipline to another is a conscious decision of scientists. It might well be an "adaptive strategy" as Nelkin also calls EP in its mirroring of religion (30). The concept of theoretical mimicry is thus an autology[24] because I apply a theory that describes an occurrence in evolutionary biology to describe the relations in the discipline of philosophy of science. I replace the units 'species' for 'disciplines' but their relation remains the same: the theory gives a reason why this mimicking would occur and why it works.

Dawkins argues in the chapter "Memes: The New Replicators" in *The Selfish Gene* that cultural evolution is much like genetic evolution although it has nothing to do with genetics (190). A simple example of cultural evolution given by Dawkins is the evolution of language. While every person that has lived between the Middle Ages and the present was able to speak English with the people of her time, Middle English is much different from today's English and people of today would not be able to have a conversation with someone who lived 500 years ago. Language evolves gradually but in a much higher pace than genetics (ibid. 189). Therefore, he abandons his genocentrism and displays another replicator (a unit that replicates itself): the meme. His aim is to show that the principle of Darwinian selection is universal for all replicators and hence does not only apply to genes, but also to memes.

> Examples of memes are tunes, ideas, catch-phrases, clothes fashions, ways of making pots or
> of building arches. Just as genes propagate themselves in the gene pool by leaping from body

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[24] An autology is a self-reference. 'Three word sentence' is an autology since the meaning describes the concept. The word 'short' is an autology since it is a short word, however the word 'long' is not a long word and hence not an autology.

to body via sperms and eggs, so memes propagate themselves in the meme pool by leaping from brain to brain via a process which, in the broad sense, can be called imitation. (ibid. 192)

Dawkins recognises the difficulty in defining a meme. Just as with the gene, the meme is not a well-delineated entity. If two people have an idea of Darwinian evolutionary theory, they do not have the precise same words for it; each has his own interpretation. But there seems to be a core idea of Darwinism according to Dawkins (196). He therefore defines meme similarly to his cautious definition of gene:

An 'idea-meme' might be defined as an entity that is capable of being transmitted from one brain to another … the differences in the ways that people represent the theory are then, by definition, not part of the meme. (ibid.)

Dawkins notes other Darwinists have tried to explain cultural practices in terms of biological advantages but this he finds no satisfying explanation to "the immense differences between human cultures around the world" (191). Darwinism, he argues, is too great a theory to only apply to genes; the principles of evolution (longevity, fecundity, and copying-fidelity) must apply to all replicators (ibid. 194). Hence for memes goes the same as for genes: the replicators that qualify best for longevity, fecundity, and copying-fidelity become the most numerous and will be the most influential in the world, and can therefore be called selfish (ibid. 196). And just like genes, memes can co-adapt which makes it hard for new memes to penetrate an established network of existing memes that are adapted to each other and strengthen each other (ibid. 199).

Memes are, as the title of the chapter says, the new replicators. Dawkins argues that once a new replicator emerges, a new form of selection comes into existence that is independent of the selfish struggle of the 'old' replicators. The genes, as first replicators, provide the basis for memes since the evolution of genes formed the human mind where the memes can be born and replicate (ibid. 194). However, these new units dominate the domain of meaning and reason and the old units lose ground. An example of this new overriding unit is the habit of celibacy, as Dawkins shows. Celibacy is most likely not a genetic adaptation since a gene for celibacy is not likely to be transmitted. Instead, a meme for celibacy can be very influential because people living in celibacy have more time teaching their habit to others than people who are preoccupied with partners and children (ibid. 198). Dawkins thus

sees himself not as a determinist because he sees potential in humans to use memes in order to "rebel against the tyranny of the selfish replicators [genes]" (201).

Mary Midgley argues in "Why Memes?" that it is "unnecessary as well as impossible" (84) to reduce ideas to the same granular units as genes as it is done by Dawkins. Thoughts and ideas are simply not as granular as Dawkins likes to portray it. The trouble of his theory of memetics "is that thought and culture are not the sorts of things that can have distinct units at all" (ibid. 80).

Nevertheless, Midgley sees why scientists would want to apply the same kind of explanations used in the physical sciences to the social sciences and humanities, as is done in the project of memetics. She argues that the formulation of scientific principles that describe and predict natural laws have since the Enlightenment been the main aim in Western scientific discourse (83). Scientists consequently tried to bridge the Cartesian dualism between mind and body, by applying the successful methods of physics to the field of the humanities and social sciences. Scientists want to be the new Newton of their field of studies; discovering natural laws makes one's field taken serious and oneself get the status of a hero. The methods applied in the social and humanist sciences are less regular and have less potential to accurately predict patterns. Nowadays, 'scientific' also stands for academic excellence and this might be an additional motive for scientists in the humanities to apply similar methods to their own field. Memetics simply satisfies the need for this unification (ibid. 84).

Midgley argues against the unification of the various disciplines. Science is designed to give meaningful answers to meaningful questions (ibid. 84). What is meaningful depends on the field of science, the scientific discourse, or the paradigm and it is historically contingent and thus permanently shifting. Moreover,

> [t]he forms of thought that we need for understanding difficult social dilemmas are distinct from those that we need for chemistry and those again from historical thinking, because the questions that we must ask in these areas are of different kinds, though of course all these forms and all these questions are related in the context of life as a whole. Naturally, then, those forms have different standards of validity. (Midgley 84)

I imagine someone who has a mild depression is probably better off talking to a psychologist about her subjective experiences in her life that make her feel depressed rather than going to a neurologist who explains the undesirable processes in her brain. What the 'real' problem is,

the lack of serotonin in the brain or the problems in her profession, is a matter of perspective. The 'best' perspective depends on the aim of the question.

In my view the atomism of thought, that is the granular, unitary depiction of thoughts and ideas, is one way to describe the movement of ideas in society. We can describe which ideas stuck and why: to which extend was it because of their longevity, fecundity, or the accuracy of replication? This can be as meaningful as to describe it in, say, Foucauldian terms of power and knowledge in discourse. The latter suits the feminist agenda very well and is thus for the purpose of emancipation of subjugated groups a fruitful theory (Downing 105). However, the evolutionary perspective on ideas might be fruitful for other purposes. In Dawkins's case memetics expresses with the same concepts as his evolutionary theory a breach in the evolutionary explanation of human behaviour. It is namely through the existence of memes that humanity has the potential to escape the influence of the selfish genes (Dawkins 201). Memetics also shines a different light on the distribution of ideas and can give people a tool to enhance the propagation of an idea.

I will elaborate on this through an example. Say that I want to promote safe sex among sexually active students;[25] the idea I want to spread is that if you have sexual interaction you should always use a condom and make sure you do not exchange bodily fluids such as sperm and blood. I want to spread this idea because I aim at less unwanted pregnancies and less STDs among students. My tactic can now either be to focus on: the longevity of the idea by making sure my message sticks with the listeners; the fecundity of the idea by stimulation people to spread the message; or the copying fidelity by making sure that I instruct people well, so that they know that STDs are not only transmitted through intercourse but also through oral sex. Combining all three tactics is most efficient, so ideally I would not need to choose one of them, but time and resources are always limited. Memetics is a tool to help me decide where to focus my strategy: do I prefer more students to know they should use a condom during intercourse (fecundity) or do I aim at making perfectly clear that a condom is also to be used when performing oral sex (copying-fidelity)? The aim influences my strategy, and memetics is a good tool to decide which strategy I want to develop. Hence I argue memetics can be a useful theory on thought.

Midgley, however, does not agree on the usefulness of this description of thought (95-96), and she is right as far as memetics, even more than Dawkins's genetics, poses units that do not materially exist. She fears a new kind of non-agency; human's power of decision is

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[25] This is a suitable example for Dawkins explicitly refers to the practice of birth control to explain that humans in fact can override their natural inclinations to reproduce through the existence of memes (198-199).

eliminated by giving memes their own struggle for existence. While Dawkins presents memetics in order to escape evolutionary psychologists' claims, Midgley argues that memetics provide another parasite that controls us. Moreover, she argues that ideas or ideologies are not seen as important for people, but that the ideas exist for their own sake. In memetics, memes are posed as being selfish and having intrinsic motivation to spread themselves, instead of endowing people with the ability to decide what they want to think and believe (Midgley 96). Again, as is the case with genocentrism according to McKinnon (5), mankind is a mere epiphenomenal element that exists in order to enable the interaction between memes.

Thought and culture are not granular. Ideas are not clearly demarcated and are hence not a unit in one's mind, brain, or thoughts (Midgley, 80). Memetics, as atomist theory of ideas, has limited explaining power and limited use. However, it does have some use as I have shown in the example above, and can therefore be a functional figure of speech, more than a scientific theory. All theories have limited use, so why not appreciate the use they do have? The difference must be clear: genes, unlike memes, are in fact a material reality – though not atomist units with clear delineation – where the concept of memes is a tool, but a useful tool.

It is interesting to see that the disciplines of genetics and memetics are modelled to each other. Memetics mimics genetics and in the process borrows credibility. The theoretical mimicry that takes place makes it possible for Dawkins's theory of mind and culture to hide under the cloak of a less controversial theory. In this case, however, the cloak is not big enough and the mimicking theory is quickly uncovered as a fraud.

Conclusion

In this chapter I moved from the concept of agency to the concept of memes. In search for the narratives in WMDL and EP in general, the attribution of agency to non-rational elements is at least striking. In contrast to the social sciences and humanities, EP reduces human's own authority over actions to a minimum and attributes all decision making to either brains, hormones, or – the most profound – genes. I ascribe this in part to the constraints of language. Darwin already uses some teleological language in which he seems to imply nature does have a plan, adaptations do have a purpose, and animals do want to evolve. However, since he is seen as a revolutionary hero and originally did not write for the greater public and could

therefore afford to be more nuanced, his ideas are reviewed as philosophical and his figures of speech that do imply agency are condoned.

Barbara and Allan Pease clearly give a completely unilateral account of human nature and the causation of human actions. They do imply and right-out say that it is all in the mind, or that people are products of their hormones. It is nevertheless for the sake of popularity, for being understandable for the unacademic reader, that the authors are this rushed. They have a politics that is aimed at providing moral guidelines which is in my opinion worse than their over-simplification of the biological processes that define humankind, for the latter is only false, but is employed for the former which has measurable impact on society.

Moreover, this study into the basic assumptions and the form of the narratives underlying WMDL brought some interesting aspects to light and tells us something about how we shape stories, scientific theories and what makes a meaningful narrative.

The genocentrism that pertains to EP appears to be a lot like neo-liberal economics. An analogy can be drawn from the individuals in an economy, to the genes in an organism. Each is supposed to strive for maximisation of personal profit; the individual people want to make the most financial profit, the gene wants to reproduce most. As long as each pursues this goal, the economy or species as a whole will benefit and flourish. Both the individual in an economy and the gene in the gene pool of a species are conceptualised as inherently selfish. Dawkins has a very nuanced account of the term 'selfish,' which is not meant to be descriptive of all genes, but only to those that continue to be in the gene pool long enough to become a unit of natural selection. Nevertheless, in the usage of his own concept it is argued that he does endow genes with an agency that is extremely selfish (McKinnon; Dover).

Economics and genetics prove to be a successful case of theoretical mimicry. I have defined theoretical mimicry as the use of a successful theory of one discipline in another discipline, where the essential units are replaced but the structures and relations between those units largely remain the same. The result is that the similarities between the two theories are hardly noticeable as contingent ideas on how individuals or genes relate among themselves. Hence, an alternative can hardly be thought of. In the process of the mirroring of each other, both disciplines are strengthened because their underlying structures become more and more accepted as common sense.

Dawkins' project of memetics is less effective in its theoretical mimicry. The concept 'meme' has not implanted itself in the social sciences or humanities, only in the discourse of funny images on webpages. While perfectly mimicking the structure of genetics, memetics

has not been taken seriously and is quickly uncovered as a project of exaggerated eagerness of its author, who aimed to formulate an all-explaining principle of replication.

Conclusion

At the start of this research I asked what cultural narratives could be found by studying Barbara and Allan Pease's *Why Men Don't Listen and Women Can't Read Maps* and its scientific references with a content analytical and narratological framework, from a feminist perspective.

WMDL is a popular-scientific book that is embedded in the scientific theories of EP. Popular-scientific books have other politics than scientific research, which in the case of WMDL is shown in a different reference style and usage of research sources, different use of language, and the freedom to candidly make moral statements. It contains anecdotes as valuable source of knowledge but at the same time it asserts to use scientific knowledge attained from EP and hence claims to be objective in its statements about men and women.

As is made clear in feminist epistemological studies, science, in contrast to the modern ideal, can never be completely objective – that is, free of values of the people who conducted it (cf. Haraway, Harding). Moreover, knowledge and power are closely related and are established by each other in discourse (cf. Foucault). The fact that this book is a bestseller hence tells us something about its reception as valuable, 'real' knowledge. It exercises power or influence over people who read the advices given and decide to use it in their everyday life. It is this influence WMDL has, and the value of the knowledge produced about men and women, which makes this thesis in the first place a feminist endeavour. Moreover, the methodologies used are characterised as feminist, since they have a keen eye for power relations which renders some people subjugated.

In this thesis I have tried to lay bare the narratives at the foundation of WMDL. This is more than just showing hidden biases, although they appear to be an important part of it. In the second chapter I have shown how WMDL is deeply rooted in heteronormativity and Eurocentrism, and that precisely in EP those biases are reinforced because they are scientifically 'proven' to be innate and natural. Those are biases that, in my view and in a feminist perspective, should not influence science and should be eliminated altogether. However, in the third chapter, these biases are uncovered to also play a part in the moral claims made by Pease and Pease. Because those moral claims are essential when it comes to the 'drag' performance of EP as a religion, they cannot simply be erased without disrupting the whole project. The mimicking of religion is part of why popular EP books are bestsellers:

they present a story that gives meaning to life. They offer answers to what human nature is, how humankind came into existence, what we are naturally 'supposed' to do, and what our most fundamental values are.

The mimicking of religion is a theoretical mimicry that EP successfully performs. Theoretical mimicry is successful when the theoretical foundations are not even doubted, just as the predators in the area of the venomous coral snake do not even try to attack the non-venomous scarlet kingsnake. The mimicking of theories is a practice that has been performed since the Enlightenment. Midgley claims that ever since that time, scientists have tried to apply the methods that had proven productive in the physical sciences, to the social sciences. The aim of this venture was to make the social sciences as productive as physics but also to find an all-explaining narrative. The reductionist dream of one theory that can explain and predict everything in all sciences is a strong motive and is still active today.

The mimicking of neo-liberal economics is a second example of successful theoretical mimicry. Because the same principle of selfish motivated units is employed in two completely distinct disciplines, the principle itself gains in credibility and seems to be relegated to the background.

Dawkins's memetics is another theoretical mimicry but is however less successful. Dawkins searches for one guiding theory that every process can be reduced to and he finds this in the three principles of effective replication: longevity, fecundity and copying-fidelity. He tries to replace the unit – genes – in theory A (genetics) with another unit – memes – in theory B (memetics) but the units in genetics are argued to be not really units, and even less so for the units in memetics. Hence, the theory did not stick in the scientific discourse.

However, I do see some potential in memetics as I have showed in an example. In certain contexts it can be valuable. I play a similar kind of game as Dawkins does with my theory of theoretical mimicry. I replace the units of species that mimic each other, with theories and argue that they are both successful when the disguise of the 'non-venomous' partner is not uncovered. I transfer an accepted principle from one discipline to a completely different one. The difference is that I am aware of the limitations the concept of mimicry has, whereas Dawkins is actively proclaiming that Darwinian selection accounts for every structure in the world.

The most influential cultural narratives that are present in WMDL are: first, the naturalness of the Western heterosexual nuclear family, which is assumed a priori and actively reinforced through EP's research methods. Second, the religious impulse that is visible in the attempt to offer a theory that makes all other scientific theories obsolete, most

notably ethics. And finally, a profound narrative in EP is the logic of selfishness as the foundation of all conduct, which is noticeable in EP as well as neo-liberal economics, and as well on the level of individuals as on the level of genes.

Theories are in the end tools to describe and predict; to understand the world in our own familiar concepts. Once a tool does not do the job, you should take another one out of your toolbox in order to tame the chaos. Because, in the end, all stories and all theories are produced to conquer the chaos, as Brinkgreve already noted.

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