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The Scientific Basis for an Ecological Ethic in the Context of Process Thought

**A thesis submitted by Jan Deckers
for the PhD degree.
St Mary's College
Faculty of Divinity
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Volume One

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24 February 2000

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Acknowledgments

Before the summer of 1994 I had never heard of St Andrews. Little did I know that a conversation I had on a sunny afternoon with Professor Skoropski would have such drastic effect. Chaos theory was corroborated: small changes can have vast consequences!

Just over a year later, I started studying for the PhD degree at St Mary's College, which I have now completed. Without the financial help of the VZW Studieondersteuning and the St Mary's Initiative, I would not have been able to complete this project. This is why I express my gratitude to them, and to all the people who contributed to these initiatives. I hope that they can continue funding important research in areas that are renowned for a lack of funding.

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Abstract

In the ontology of scientific materialism, there is no room left for the soul and the freedom of the will, and there is no point in arguing for an ecological ethic, which in practice amounts to the persistence of strong anthropocentrism.

Its alternative, dualism, exalts human beings to a God-like status and separates them from the material world, justifying an equally strong anthropocentric ecological ethic.

Nowadays, both scientific materialism and dualism are being questioned by philosophers of science, based on their readings of four recent developments within physics: chaos theory, the theory of relativity, thermodynamics, and quantum physics.

We argue that since some of these developments provide room for challenging scientific materialism and dualism, strong anthropocentrism can no longer be justified. Other positions ('pathocentrism', biocentrism, and ecocentrism) in the debate among ecological ethicists will be introduced and criticised, leading to a detailed study of the deep ecology movement in reaction against widespread misrepresentations of this movement, and a proposal for a weak anthropocentric ecological ethic.

The acceptance of panexperientialism as an alternative to scientific materialism and dualism is a *conditio sine qua non* for the successful implementation of a weak anthropocentric ecological ethic, which values the intrinsic value of all natural entities.

This, in turn, presupposes the rejection of the theology of classical theism, which is presented by looking into Thomas Aquinas' doctrine of God. Finally, process theism will be introduced as a valuable alternative by means of a critique of Whitehead's doctrine of God, and of recent interpretations of this doctrine by Lewis Ford and Palmyre Oomen. Process theism, which is distinguished from pantheism and pansyntheism, provides a superior account to classical theism in dealing with creation, the problems of evil, of God's omniscience, and of divine action, and supports a weak anthropocentric ecological ethic.

Table of Contents

Acknowledgments I

Abstract II

Table of Contents III-VI

Introduction (1-6)

Part One: Questioning if Scientific Materialism is a Necessary Implication of Contemporary Theories in Physics (7-59)

Chapter 1: What is Scientific Materialism? (7-17)

Chapter 2: Chaos Theory and the Determinism of Scientific Materialism (18-22)

Chapter 3: The Theory of Relativity and Einstein's Struggle with the Determinism of Scientific Materialism (23-26)

Chapter 4: Thermodynamics as a Serious Challenge to the Determinism of Scientific Materialism (27-36)

Chapter 5: Quantum Physics and the Collapse of the Determinism of Scientific Materialism (37-59)

5.1. The Basic Principles of Quantum Physics (37-49)

5.2. A Summary of the Main Positions in the Debate on the Relevance of Quantum Physics to the Determinism-Indeterminism Issue (49-57)

5.3. Quantum Physics and the Mind-Body Problem (57-59)

Part Two: In Search of an Ecological Ethic (60-186)

Chapter 1: Strong Anthropocentrism (62-69)

Chapter 2: 'Pathocentrism' and Moral Extensionism Towards Nonhuman Animals (70-85)

Chapter 3: Biocentrism (86-102)

Chapter 4: Ecocentrism. A Focus on the Deep Ecology Movement (103-186)

4.1. The Starting Point (104-109)

4.2. The Platform of the Deep Ecology Movement (109-116)

4.3. Ecosophy T. (116-149)

4.3.1. What is Ecosophy T.? (116-121)

4.3.2. Four Important Sources of Inspiration for Ecosophy T (121-149)

4.4. Some Critical Remarks With Regard to Deep Ecology (149-184)

4.4.1. Different Meanings of 'Self-realisation!' (149-151)

4.4.2. 'Self-realisation!': The Root of the Ecological Crisis? (151-153)

4.4.3. 'Self-realisation!' and Monism (153-163)

4.4.4. 'Self-realisation!' and Death Anxiety (163-175)

4.4.5. Biospherical Egalitarianism and the Solving of Moral Conflicts (175-181)

4.4.6. A Critique of Naess' Eclecticism (181-184)

4.5. Deep Ecology Reassessed (184-186)

Chapter 5: A Proposal for a Weak Form of Anthropocentrism (187-220)

5.1. The Basic Elements of Weak Anthropocentrism (187-188)

5.2. Weak Anthropocentrism and the Moral Recognition of Pre-moral Teleological Capacities in Nonhuman Entities (188-200)

5.3. Weak Anthropocentrism and Its Quasi-vegan Implications (200-203)

5.4. Weak Anthropocentrism and Its Relatedness to Theology (203-208)

5.5. Weak Anthropocentrism and the Solution of the Is-Ought Fallacy (208-218)

5.6. Weak Anthropocentrism and the Solution of Moral Conflicts (218-220)

**Part Three: Process Theism as an Alternative to Classical Theism.
Panexperientialism as a Replacement for Materialism and Dualism**
(221-355)

Chapter 1: Classical Theism (222-249)

- 1.1. The Essence of Classical Theism (222-229)
- 1.2. Classical Theism Reflected in Aquinas' 'Ecological Ethic'
(229-237)
- 1.3. Classical Theism and Its Connection with the Rise of Deism,
Dualism, and Materialism (237-244)
- 1.4. The Untenability of Classical Theism (244-249)
 - 1.4.1. Classical Theism and the Problem of Creation (244-245)
 - 1.4.2. Classical Theism and the Problem of Evil (245-247)
 - 1.4.3. Classical Theism and the Problem of God's Omniscience (247-
248)
 - 1.4.4. Classical Theism and the Problem of Divine Intervention
(248-249)
 - 1.4.5. Classical Theism and Ecological Ethics (249)

Chapter 2: The Case for Panexperientialism (250-299)

- 2.1. What is Process Thought? (250-252)
- 2.2. Panexperientialism Introduced (252-262)
- 2.3. The Dualist and Materialist Charges Against Panexperien-
tialism (262-263)
- 2.4. The Panexperientialist Answer to Dualism and Materialism
(263-274)
- 2.5. Panexperientialism as a Contribution to a Weak Anthropo-
centric Ecological Ethic which Recognises the Intrinsic Value of
Nonhuman Actual Entities (274-294)
- 2.6. Panexperientialism and Pantemporalism (295-299)

Chapter 3: Process Theism and the Ecological God (300-355)

- 3.1. General Contours of Whitehead's Challenge to Classical Theism
(300-317)
- 3.2. Process Theism as an Alternative for the Specific Problems
Related to Classical Theism (317-355)

3.2.1. Process Theism and Creation (317-320)

Intermezzo: Process Theism and Pantheism (320-325)

3.2.2. Process Theism and the Problem of Evil (325-338)

Intermezzo: Pansyntheism as an Alternative for the Evil Caused by the Teleological Thrust in Process Theism? (339-345)

3.2.3. Process Theism and God's Omniscience (345-348)

3.2.4. Process Theism and Miracles (348-352)

3.2.5. Process Theism and a Weak Anthropocentric Ecological Ethic (352-355)

Bibliography (355-377)

Introduction

The attempt to find an appropriate ecological ethic stands or falls depending on which ontology we accept.

One ontology which has been influential in our Western culture since modernity is scientific materialism or mechanicism. In this worldview, nature is pointless and godless. Therefore, there is either no point in arguing for an ecological ethic, or the point of such an ethic would be that, as there is no intrinsic value in nature, human beings do not have any limitations whatsoever in exploiting nonhuman nature.

The most common objection against scientific materialism has been dualism, which leaves scientific materialism unchallenged for the description of nonhuman natural entities and the human body, but finds it inappropriate to describe that aspect of the human being which is called the soul or the mind. The human soul has at least one remarkable property which does not fit into a materialistic description of the world: free will. Human beings are then considered to be gypsies in a vast universe which is completely devoid of any features that resemble the human soul. Like for scientific materialism, this translates in a strong anthropocentric ecological ethic. As human beings have one property which makes them similar to God, they rise to a God-like status and can use nonhuman nature at whim to support the spiritual journey of the soul.

The connection between scientific materialism and science, most

notably the science of physics, is usually held to be such that both are, consciously or unconsciously, supposed to be supportive of one another. In the first part of this thesis (**Part One: Questioning if Scientific Materialism Is a Necessary Implication of Contemporary Theories in Physics**), I will question if scientific materialism (which is introduced in the first chapter) is a necessary implication of contemporary physics, since an increasing number of philosophers of science and theoretical physicists start to tackle its validity. This is done by looking at the following four recent developments in physics: chaos theory (chapter two), the theory of relativity (chapter three), thermodynamics (chapter four), and quantum physics (chapter five).

As at least some of these recent developments seem to question scientific materialism (and as a consequence also dualism), there is room for the development of a new ontology which implies that I can also start searching for an ecological ethic. This is the objective of the second part of this thesis (**Part Two: In Search of an Ecological Ethic**). The positions defended by a variety of contemporary ecological ethicists are outlined and classified in the following models: strong anthropocentrism (chapter one), 'pathocentrism' (chapter two), biocentrism (chapter three), and ecocentrism (chapter four). Chapter four will aim at presenting the deep ecology movement as fairly as possible in reaction against common widespread misrepresentations of this movement. A personal alternative will be argued for by critical reflection upon the other models. This will result in a weak form of anthropocentrism (chapter five). Weak anthropocentrism will

provide a satisfactory solution to the problem of regulating intraspecific and interspecific conflict, and to the so-called is-ought fallacy.

Weak anthropocentrism depends on the recognition of the intrinsic value of nonhuman nature, which in turn depends on the acceptance of the ontology of panexperientialism. This brings us to the final part of this thesis (**Part Three: Process Theism as an Alternative to Classical Theism. Panexperientialism as a Replacement for Materialism and Dualism**). For panexperientialism to be accepted, classical theism (which resulted from the coming together of Greek philosophy and Christian faith) has to be criticised. Firstly, classical theism is introduced (chapter one), especially by showing the theological system of Aquinas and its repercussions for his and any ecological ethic which is formulated from a classical theistic perspective. I will show then how classical theism is connected to the rise of deism, scientific materialism, and dualism, and why it cannot be maintained. Some of the specific problems which show why classical theism is untenable are addressed: its inability to provide satisfactory accounts of creation, of the problem of evil, of God's omniscience, of divine intervention, and its translation into an unacceptable ecological ethic. This will clear the ground for my defense of (essentially) David Griffin's case for panexperientialism (chapter two), which provides an alternative for both materialism and dualism, and which I hold to be a *conditio sine qua non* for the successful implementation of the weak anthropocentric ecological ethic defended here. Panexperientialism may go hand in hand with process

theism (chapter three), which is an alternative for classical theism. After having outlined the general contours of process theism, I will show how it provides a superior account to classical theism in dealing with creation and with the following problems: evil, God's omniscience, and divine action. Two intermezzos will be fitted in to show how process theism relates to pantheism and pansyntheism respectively.

I would now like to articulate some of the presuppositions underlying this dissertation in an attempt to provide from the outset enough clarity to this work. In this way, adequate criticisms can be situated against the context in which I have developed my arguments, and inadequate criticisms can be avoided.

The title of this dissertation may lead one to suspect that I derive a particular ecological ethic from science (in this study: especially the science of physics). This is not the case. Science and ethics are clearly two separate disciplines. While the former establishes knowledge about 'what the world is like', the latter deals with the question 'what we ought to do in and with this world'.

Also, ontology is different to both science and ethics, with different methods to obtain knowledge about the world. They should not be confused. Panexperientialism is, like materialism and dualism, an ontology. Ontologies combine different insights from different sciences (including physics, biology, psychology, ...) and look for general principles, thereby establishing total views

on reality. Bearing this in mind, the argument espoused in this piece of work is not that the science of physics necessarily leads to panexperientialism. What I argue is that one particular interpretation of (especially quantum) physics supports panexperientialism, whilst also sketching other interpretations which do not support panexperientialism.

The acceptance of panexperientialism, in turn, does not necessarily lead to a weak anthropocentric ecological ethic. Yet what we ought to do with the nonhuman world (ecological ethics) is, in my opinion, influenced by what we believe the nonhuman world is like (ontology). While a weak anthropocentric ecological ethic is more likely to go hand in hand with panexperientialism than with any other ontology, a strong anthropocentric ecological ethic is more likely to be held by those who stick to a materialist or dualist ontology. In spite of there being exceptions (such as for example Spinoza, a vegetarian materialist, who may have been a weak anthropocentrist) I will argue that the particular weak anthropocentric ecological ethic defended here depends upon the acceptance of the validity of panexperientialism. There may well be other forms of weak anthropocentrism which do not depend upon the acceptance of panexperientialism, but it is my conviction that the widespread social acceptance of weak anthropocentrism (with the practical guidelines suggested in this work) may necessitate panexperientialism.

Further, although the acceptance of panexperientialism carries along with it the rejection of classical theism, not everyone who

is inclined to panexperientialism may accept process theism. Yet the particular form of panexperientialism defended here is accompanied by my personal belief that the creative elements of the universe find their source in a unifying person who persuades these entities to follow some pathways rather than others, thereby luring the world towards greater harmony and novelty. What I would like to stress, however, is that the ecological ethic defended here depends neither upon the acceptance of process theism nor upon the acceptance of the existence of (a) God(s), but upon panexperientialism as the ontology which holds that all actual entities have experience.

A final presupposition is my belief that the way in which the world evolves is subject to the principle of continuity. This principle is underlying what is called an 'evolutionary line' or an 'evolutionary history' in the neo-Darwinian theory of evolution. It means that there are no abrupt evolutionary changes: a chimpanzee, for example, does not evolve directly from a mouse.

Part One: Questioning if Scientific Materialism Is a Necessary
Implication of Contemporary Theories in Physics

Chapter One: What Is Scientific Materialism?

Today, there is a debate in the philosophy of science between scientific materialism or mechanicism on the one hand and holism or organicism on the other hand. While mechanicism holds that wholes can be explained entirely in terms of their components and that all change is the deterministic and, in principle, predictable outcome of the combining and recombining of unchanging bits of matter, holism holds that the whole is marked by a self-determining element that cannot be explained by sole reference to its components, and that change may be an inherent feature of the basic bits of matter. While for mechanicism reality is ultimately unchanging or timeless, for holism reality is ultimately changing or temporal. While for the former new physical events are entirely determined by anterior physical events, for the latter new events are partly indeterminate (in the sense of: not being determined by anterior events, or self-determining).¹ While for mechanicism reality is an aggregate of ultimate units of matter which are only externally related by pushing and pulling one another, for holism the ultimate components of the world are internally related to one another as they are constitutive of one

¹ In what follows we refer to this conflict as the determinism - indeterminism issue. What we understand by 'indeterminism' differs from randomness. By the former we mean the view that a thing has the capacity to determine itself (rather than being completely determined by anterior things or events), while randomness relates to a complete absence of determinacy.

another.²

The debate between these two views of reality is by no means new, and goes back at least to ancient Greece. The theoretical physicist Paul Davies, for example, summarises:

"On the one hand stood Aristotle's synthetic, purposeful universe, and on the other a strictly materialistic world which could ultimately be analysed as, or reduced to, the simple mechanical activity of elementary particles."³

It is this materialistic view with its implicit denial of the temporal character of the world which has resulted in the influential scientific materialism of our present age. Although most people have probably always felt that the future differs from the present for its not being real, it is astonishing that most of Western philosophy and theology has entertained the idea that the future somehow is real or present prior to our perception of it. We may think of the prophecies of Nostradamus which are still taken seriously by some people today and of the Christian doctrine of God's foreknowledge and the related doctrine of predestination, but the idea may be traced much further back to Parmenides who defended the unchanging nature of reality. Notorious among the Greek philosophers was Plato's view that the true reality is unchanging and that the world of change is a corrupt copy of true reality, belonging to the imperfect world of sensory perception. Although Aristotle shared the same predilection for the unchanging

² Birch, 1988, p. 71: Birch points out - when talking about the evolution of matter up levels of organisation - that it "is not simply that the whole is more than the sum of its parts. The parts are themselves redefined and recreated in the process of evolution from one level to another".

³ Davies, 1987, p. 7.

world, especially in connection with his idea of God as the Unmovable Mover, Capek has remarked that at least in his *De Interpretatione* he conceived of the future in the sublunar world as genuinely open or undetermined. Capek adds that the ontological significance of change is emphasised even more in Aristotle than in Heraclitus (whose world of change was subjected to a scheme in which things eternally recurred), and that the reason why Aristotle opted for taking change seriously did not result from his work as a physicist, but from ethical considerations.⁴ It is interesting to remark here that this may also be connected to Aristotle's understanding of causation. Aristotle distinguished between four causes: material, formal, efficient, and final causes. The former two are now thought to belong to the event the change of which has to be explained. The efficient cause refers to the past and is an antecedent event which causes or necessitates the effect under consideration. The final cause refers to the future as it specifies the end or purpose of an event.

While Aristotle thought all things were - on their own account - marked by final causation (internal final causation), most of our Western tradition has narrowed final causation to the intentional activity of a conscious agent (often seen as external final causation). In the Christian framework, final causation was often understood by reference to the plan God, a timeless and external reality, had imposed upon His creation. The openness of the future

⁴ Capek, 1986, p. 299-300: Capek resists interpreting Heraclitus' view of the cosmos as eternally recurring as if it included the idea of an open future, for: "Cyclical time, in which the future has already been past and the past will be future an infinite number of times, is no time at all".

was often denied as final causation and efficient causation were held to coincide.⁵ All relations between things are external: things are external to one another in space, and the fundamental nature of one thing is independent of the nature of another thing.

This denial of internal final causation and internal relations paved the way for the modern version of Greek materialism which entered the Western intellectual scene since about 1700: **scientific materialism** was built on the assumption that the new, **Newtonian physics**, according to which - as has been observed rightly by Griffin - "nature was devoid of self-motion" (in the sense of self-determination), could provide a sufficient account of the nature of the whole of reality.⁶

Galileo had shown, before Newton, that a force is changing the speed of a body, rather than setting it in motion, as had previously been conceived. This idea was phrased with more clarity in Newton's *Principia Mathematica*, published in 1687, and is known as Newton's first law. His second law stated that the acceleration of a body is proportional to the mass of the body and to the force acting on the body. In addition to the laws of motion, he formulated the law of gravity: every body attracts every other body with a force that is proportional to the mass of each body.⁷

Scientific materialism boils down to the view that these

⁵ A detailed historical overview of this interpretation is Soontiens, 1993.

⁶ Griffin, 1988, p. 10.

⁷ Hawking, 1988, p. 16.

mechanistic laws (to which later other laws were added) could, in principle, account for the behaviour or motion of all physical phenomena, where it is assumed that the behaviour of a large system can be described by the summation of the mechanical behaviour of its components. What we call 'mechanical behaviour' here is machine-like behaviour, wherein all components carry out their preprogrammed functions with mathematical precision, determined externally by the structure of the machine in which they are working.⁸

Scientific materialism accepts Leibniz' 'principle of sufficient reason': all new events can be explained sufficiently in terms of their past causes. The laws of dynamics assume that there is a reversible connection between causes and their effects. As time is reversible or symmetrical, the chain of causes and effects is completely deterministic. As a mathematical equation, the physical world can be read either way, from cause to effect or the other way round.⁹ Nature is a deterministic system since the natural laws are - to use the words of the theoretical physicist Zeh - such that "they uniquely determine a state at any time from the state (and possibly its time derivative) at another (earlier or

⁸ Bohm, 1988, p. 60-61.

⁹ Prigogine, 1989, p. 30-32, 207; In this context, it is worthwhile to notice that Newton himself was not adhering to the so-called 'Newtonian' worldview that we are describing here: Newton and Clarke speak of forces that do not obey to the law of conservation, but are the result of the perpetual activity of God, who constantly feeds the activity of the world as its real Creator. Nevertheless, the whole history of dynamics, from Galilei till Lagrange and Hamilton, has subscribed to Leibniz' principle. For further details see also for example Prigogine, 1989, p. 30-32, 42-43.

later) time".¹⁰

Although it has always been clear that the position of a body could be known only with finite accuracy, it was held that the motion of any particle could, in principle, be known if the initial conditions were known and all the forces that arise from the interactions between particles.¹¹ Within the paradigm of scientific materialism, many scientists asserted that the only thing in nature that was real and reliable were the quantities representing the position and velocity of a body through time. The qualia, such as colour and scent, and values, were merely subjective projections. As all values were subjective projections, there was no objective ground on which the dominant ecological ethic of strong anthropocentrism could be questioned.¹²

Since modernity, however, the most common reaction against scientific materialism has not been holism, but **dualism**. Dualists have reacted against scientific materialism in the following way. It is impossible to conceive of human behaviour in the way propounded by scientific materialism. While scientific materialism is an appropriate way to conceive of nonhuman nature, as it is governed by imposed and unchanging laws (displaying behaviour that is as regular, predictable, and controllable as a smoothly running

¹⁰ Zeh, 1992, p. 1; Sklar, 1995, p. 202: A similar definition of determinism is given here: "the state of the world at one time and the laws of nature together completely fix the state of the world at all later times".

¹¹ Davies, 1987, p. 9-13.

¹² For an outline of strong anthropocentrism, see part two chapter one.

machine) and of the human body - which, after all, undergoes the same laws of nature, it is inappropriate to describe the human soul, which has a remarkable property: free will.¹³ Augustine, for example, had already reserved a special place for the human soul. While man had received a soul produced from water and earth like the souls of the other animals, additionally only man was created with a rational soul.¹⁴ By drawing the attention to the human soul, dualists have tried to maintain human dignity in the face of mechanicism. In fact, the degradation of nature - a realm of quantifiable properties stripped of intrinsic value or purpose and completely determined by unchanging laws - has often run parallel with the exaltation of everything that had a higher position: God and humanity.¹⁵ By its strong anthropocentric

¹³ The fact that we differentiate between 'human and nonhuman nature' and 'human and nonhuman animals' is not without its problems as it may betray a dualistic bias, while it is my intention to argue in this dissertation for a strong continuity between all natural entities. In the absence of a proper alternative, however, we will continue using this terminology. In spite of this, we have to be aware of the fact that the use of the word 'nonhuman' is problematic as it compares **the whole of nature** and **all other animals** with human animals and bases its understanding of them upon a negation ('non') of what it means to be human. Also, important differences between nonhuman entities may be overlooked and it may, for example, imply that there is some commonality which distinguishes all other animals from human animals, for which there is no evidence.

¹⁴ Augustine, CG, 13.24.

¹⁵ This view went often hand in hand with a dualism between history and nature or the idea that God only acts in human history, and that the rest of nature or creation is subordinate and may be subjected to the project of human history. See also Waldau, 1998, p. 78: Paul Waldau has pointed out that a number of influential twentieth century theologians, including von Rad, have argued that the Biblical authors had a low esteem of creation and regarded it primarily as a realm that was idolatrously worshipped by Israel's neighbours, a view which has recently been challenged as inadequate and originating in nineteenth century anthropological and philosophical models, including Hegelianism. See for example von Rad, 1966.

flavour, dualism has resulted in our liberation or alienation from nonhuman nature and has left humanity as a gypsy in a vast universe governed by iron, mechanical laws. We are the big exception in the universe, a cosmic accident. All human features are the result of culture, which has totally supplanted our natural inclinations and - as culture is held to be an exclusively human phenomenon - a comparison of human behaviour with the behaviour of nonhumans does not make sense.¹⁶ In spite of our being gypsies or cosmic accidents, our higher place in nature allows us to dominate nonhuman nature and justifies a strong anthropocentric ecological ethic.

Since a dualistic picture of the world inevitably leads to the problem of how to conceive of the soul and body interacting, scientific materialists have reacted against dualism by stressing scientific materialism with more consistency, which leads to the conclusion pointed out by Zeh: if we assume that "any parts of (...) (our) history (are) completely determined from their (...) prehistories", then this "would be in conflict with the notion

¹⁶ It is because of the fact that this line of thinking has been so influential in the twentieth century that it has been so difficult to relate biology to human social behaviour, which has been regretted for example by sociobiologists such as Crook, 1985, p. 151: "Man and beast have remained as rigorously separated as if special creation were still an effective theory in science". This is the result of the power of what Pinker has called the 'standard social science model' where human behaviour is explained by sole reference to culture, leading to the following conclusion pointed out in Pinker, 1997, p. 47: "The moral equation in most discussions of human nature is simple: innate equals right-wing equals bad". Pinker rightly reacts heavily against this idea and points out that sometimes the left-wing explanation provided by the 'standard social science model' may be as bad, providing the example of an American officer commenting on the Vietnam war that their victims did not suffer so much as their culture did not value human lives very much (p. 48).

of *free will*".¹⁷ This conclusion had gained fame since the eighteenth century, when Laplace wrote:

"We ought then to regard the present state of the universe as the effect of its anterior state and as the cause of the one which is to follow. Given for one instant an intelligence which could comprehend all the forces by which nature is animated and the respective situation of the beings who compose it - an intelligence sufficiently vast to submit these data to analysis - it would embrace in the same foundation the movements of the greatest bodies of the universe and those of the lightest atom; for it, nothing would be uncertain and the future, as the past, would be present to its eyes."¹⁸

It became clear to Laplace that there was no place left for belief in God and in the reality of free will, which were tackled also by respectively the rise of modern atheism and Darwinism (and sociobiology). The following conclusion seemed unavoidable: everything that has ever happened, everything that is happening now, and everything that will ever happen, has been unalterably determined from the first moment of time. Even everything that we do is completely determined. The universe is a giant **clockwork mechanism**: all components follow their preprogrammed instructions to mathematical precision. Everything that happens is seen as a change in state (for example temperature, motion, position) according to rigid, universal, dynamical laws that are mathematically representable. In this picture of reality, **time has no real significance**. It merely exists as a parameter for gauging the interval between events or a parameter which simplifies the description of motion. Nothing really new happens. Newtonian time proceeds from a very fundamental characteristic

¹⁷ Zeh, 1992, p. 56, note 6.

¹⁸ Barbour, 1997, p. 35: Reference is made to Laplace, 1961, p. 4.

of the laws of motion: the fact that they are reversible. The laws are invariant: they do not distinguish between 'time forwards' and 'time backwards'. The universe can do only one thing, it follows a unique path.¹⁹ If this is the case, it makes more sense to say that the effect is contained in the cause rather than following it. This is called the 'container theory of causality'.²⁰ What this view entails is clear: without the future being open or at least partially indeterminate, the feeling of freedom we have is illusory. In the last two decades, this conclusion has been stated most vigorously by sociobiologists, who study the biological basis of human behaviour. Wilson, for example, has argued:

"If our genes are inherited and our environment is a train of physical events set in motion before we were born, how can there be a truly independent agent within the brain? The agent itself is created by the interaction of the genes and the environment. It would appear that our freedom is only a self-delusion."²¹

¹⁹ Prigogine, 1989, p. 47-48; Zeh, 1992, p. 8, 12; Davies, 1987, p. 11-18; Some people, for example Grünbaum, have argued that the significance of time is not intrinsically connected to the question whether or not the universe is determined. He has argued that it is a misconception to hold that a deterministic world is necessarily timeless. Our awareness is temporal, but the events we observe "occur tenselessly". See Grünbaum, 1976, p. 493-494. What is problematic in this view is, to use the words of Whitrow: "But, if the future history of the universe pre-exists logically in the present, why is it not already present? If, for the strict determinist, the future is merely 'the hidden present', whence comes the illusion of temporal succession?" See Whitrow, 1976, p. 530.

²⁰ Capek, 1986, p. 303; No doubt this raises serious questions with regard to what to understand by causality: if everything is simultaneously present, succession is denied and the distinction between cause and effect is impossible to make. This was perceived well by Hume, 1981, p. 73-78 (A Treatise of Human Nature, book 1, part 3, section 2).

²¹ Wilson, 1978, p. 71, p. 77: Wilson thinks, however, that he finds a way out of this deterministic picture by stressing that our behaviour is unpredictable as a result of the complexity of

If this is true, then we have to conclude with Brown - who discusses the work of the sociobiologist Richard Dawkins - that "we are unimportant wisps of matter, at the mercy of an omnipotent power", in this case: the power of our genes.²²

Nowadays, this deterministic picture of scientific materialism is being **questioned** by philosophers of science, by physicists and biologists, which has led to a new interest in holism.²³ Physicists and philosophers of science are motivated to do so by their interpretations of either or all of the following four recent developments in physics: firstly chaos theory, secondly relativity theory, thirdly thermodynamics, and finally quantum physics. In what follows we will investigate if, and how, scientific materialism has been questioned by these four developments in physics.

our mind and our social relations. However, as we will see in our section on chaos theory, unpredictability and complexity should not be equated with freedom.

²² Brown, 1996, p. 59.

²³ We lack the scope to go into biology here. For a strong reaction against mechanism from a biological point of view, see for example Birch, 1988.

Chapter Two: Chaos Theory and the Determinism of Scientific Materialism

Chaos theory is the study of complex, non-linear systems. A classic example of such a system is the weather: the flutter of the wing of a butterfly on one side of the globe can trigger off a hurricane on the other side of the globe.¹ What is known as the **butterfly effect** shows that small causal factors can have vast, and often unpredictable, effects. This is often taken to imply that nature therefore cannot be completely determined, which is then supposed to overrule the scientific materialism connected with Newtonian physics. This conclusion may have been triggered by remarks such as the following one by Gleick, who wrote a popular book on chaos theory: "Where chaos begins, classical physics stops", which - according to Joseph Ford of the Georgia Institute of Technology - "eliminates the Laplacian fantasy of deterministic predictability".² This led the New Age writer Capra to argue that nature is "open and indeterminate".³ Davies' conclusion, however, is more ambiguous: "even if the universe behaves like a machine in the strict mathematical sense, it can still happen that genuinely new and in-principle unpredictable phenomena occur".⁴

¹ Gleick, 1990, p. 20, 322: Gleick remarks that the meteorologist Edward Lorenz originally used the image of a seagull and only later introduced the more famous image of the butterfly in the paper: Lorenz, 1979.

² Gleick, 1990, p. 3, 6: For the second quote, Gleick refers to Ford, s.d., p. 12.

³ Capra, 1982, p. 288.

⁴ Davies, 1987, p. 55.

What Davies forgets, however, is that for something to be "genuinely new" it cannot behave "like a machine". Something can only be really new if it is not determined entirely by anterior conditions. And since most chaos theorists - as pointed out by Gleick - assume that what they study is the irregular or unpredictable behaviour of deterministic systems, it is clear that - in spite of Davies' and Capra's arguments - the determinism of scientific materialism has not been undermined.⁵ Chaos theory does not support the view that nature is inherently indeterminate. It is important not to confuse **unpredictability** with **indeterminism**. This has also been perceived clearly by Zeh, who points out:

"it would not be justified to argue that the assumption of the *existence* of a real (completely and uniquely defined) state of the universe must lead to contradictions simply because of its incomplete observability to an (...) observer."⁶

In other words, it is not the case that nature develops in an indeterminate way because it develops in an unpredictable or partially unobservable way. Whereas unpredictability relates to our lack of knowledge of chaotic systems, a system is indeterminate if and only if it has the capacity to choose different ways of behaviour under a fixed set of conditions. It is not legitimate to call the universe indeterminate just because we do not know the laws that are at work. Since most scientists dealing with chaos theory assume that the observed phenomena only appear to be random because of the complexity of the original situation or the amount of parameters involved in their equations, and not because of some intrinsic property in matter, scientific

⁵ Gleick, 1990, p. 306-307.

⁶ Zeh, 1992, p. 65.

materialism has not been superseded. The methodology of science consists in the attempt to find regularities and recurring patterns in the changing world.

However, it would be a mistake to draw the conclusion that there is no changing world from the observation of relatively changeless patterns in the world. This is precisely what may be the problem with scientific materialism: it takes the observation of universal patterns between particles of matter to be sufficient to explain the behaviour of these particles. To provide rational explanations always means to reduce the world of heterogeneity and particularity to a world of homogeneity and universal laws. This does not need to be problematic as long as the natural process is not identified with the unchanging behaviour that can be accounted for by our explanation in terms of these laws. If we mistake our abstractions for the concrete reality, we commit what Whitehead called the **fallacy of misplaced concreteness**.⁷ People who deal with chaos theory from a scientific materialist point of view commit this fallacy insofar as they abstract from the possibility that there may be a self-determining element in the components of chaotic systems - like in any other systems - by holding that the dynamic development of these systems can be predicted accurately once all the factors constituting the initial state of such systems are known. We will discuss whether or not such a self-determining element can be assumed in our chapter on panexperientialism (second chapter of part three). What has to be stressed here is that, although minute changes in the initial

⁷ Whitehead, 1985, p. 64.

state of a system may lead to drastic changes - which may include chaotic behaviour - in the development of a system, it would be erroneous to conclude - as the physicists Davies and James Crutchfield for example do - that chaos theory accounts for the phenomenon of free will.⁸ The problem with this view has been expressed well by Pinker, who draws on the butterfly effect:

"A fluttering in the brain that causes a hurricane of behaviour (...) would still be a cause of behavior and would not fit the concept of uncaused free will that underlies moral responsibility."⁹

Most chaos theorists, indeed, hold that a better knowledge would yield predictable behaviour, as nature is considered to be a deterministic system. This is why Ian Stewart, the writer of a popular book on chaos theory, concludes his book with the following words: "If God played dice, He'd win."¹⁰ This, together with the title of his book *Does God play dice?* alludes to Einstein's famous letter to Max Born, wherein Einstein wrote: "You believe in the God who plays dice, and I in complete law and order...".¹¹ Stewart thinks the 'dice' metaphor is one of the most inappropriate ever invented, unless the idea of randomness is refined. Stewart argues that the source of randomness lies in our knowledge of the initial conditions: we can know the initial conditions of velocity and the following rate of spin for throwing a die or tossing a coin only within limits. But, according to Stewart, the outcome is determined and predictable for any known

⁸ Davies, 1987, p. 190: Reference is made to Crutchfield, Doyne Farmer, Packard, and Shaw, 1986, p. 49.

⁹ Pinker, 1997, p. 55.

¹⁰ Stewart, 1990, p. 303.

¹¹ Stewart, 1990, p. 293.

values.¹² The fact that Stewart thinks that the 'dice' metaphor may be a good one after all relates for him only to our epistemological limitations to predict nature's behaviour, not to any intrinsic indeterminacy within nature.

We have to conclude, then, that chaos theory does **not** challenge the deterministic paradigm that underlies classical physics and scientific materialism, which is its philosophical legitimation.

¹² Stewart, 1990, p. 295-297.

Chapter Three: The Theory of Relativity and Einstein's Struggle with the Determinism of Scientific Materialism

In the theory of relativity, the **symmetry** of time - and hence the deterministic nature of reality - is usually defended in the following way. The 'now-line' separating the past from the future is different for different observers. The absolute 'future' character of the future hereby seems to be denied: what is future for me may not be future for you, as time is relative to motion. It seems obvious that the relativisation or elimination of absolute simultaneity implies the abolition of the objectivity of the temporal order. To give an example: for someone travelling by train through a station, the station clock runs slower than for someone observing the same clock in the station (although this difference is negligible as we are traveling at low speed). What counts as 'the present' therefore is different for both of them.¹ In the words of Gödel: "Each observer has his own set of 'nows', and none of these various systems of layers can claim the prerogative of representing the objective lapse of time."² Capek has remarked that Gödel's view persuaded Einstein to conclude: "*Für uns gläubige Physiker hat die Scheidung zwischen Vergangenheit, Gegenwart, und Zukunft nur die Bedeutung einer wenn*

¹ Hawking, 1988, p. 33: This is also illustrated by the **paradox of the twins**. If one of the twins would go on a spacetravel at a high speed, he or she would be much younger than his brother or sister who stayed on earth upon his or her return.

² Gödel, 1976, p. 455.

auch hartnäckigen Illusion".³

Yet this view may have to be challenged. Even though it is true that what is future for me may not be future for someone else, it still is the case that I am not capable of perceiving what will happen to me in the future. My future is **absolute**! It is even so that what will happen to me in the future cannot be known by any conceivable observer, whatever place in the four-dimensional system this observer may occupy.⁴ So it is not correct to hold that, in relativity theory, the succession of events is entirely arbitrary. This is expressed well by Capek, who argues:

"By the very definition of 'Elsewhere' (the whole four-dimensional region), no causal actions from my own 'Now' - a *forteriori* from my own future - can reach the observer unless they move with a velocity greater than that of light, which is excluded by relativity. Conversely, for the same reason, no event from the causal future of any observer located in the 'Elsewhere' region can reach my own 'Here-Now'. Consequently, future events are *intrinsically unobservable*; hence, to accept their existence runs against all accepted rules of scientific methodology."⁵

Whichever frame of reference we choose, a present event is separated from the future by the absolute fact that the present is anterior to its own causally conditioned future in any frame of reference. This is so because cause and effect cannot be related meaningfully if the velocity with which causation occurred

³ Capek, 1976, p. 503; Zeh, 1992, p. 164 note 1: Reference is made to Hoffman and Dukas, 1979, p. 164; Hawking, 1988, p. 89: Hawking, who argues for the existence of infinitely dense points, naked singularities, or black holes throughout space, has even expressed the view that "close to naked singularities it may be possible to travel into the past".

⁴ Dupré, 1996, p. 26-28; Capek, 1986, p. 305-307.

⁵ Capek, 1986, p. 307.

would exceed the velocity of electromagnetic radiation. An event is simultaneous with itself and only with itself. This is a crucial difference between relativity and the physics of Newton, according to which every instant of time is present throughout the whole of space.⁶ Indeed, in the Newtonian paradigm, the force of gravity was held to have infinite velocity, rather than a speed at or below the speed of light, as the special theory of relativity required. It took Einstein several years to combine gravity with his special theory of relativity. The general theory of relativity was proposed in 1915. The force of gravity is now seen as a consequence of the fact that space-time is not flat, as had been held previously, but curved or warped because of the distribution of matter and energy in it.⁷

Contrary to Einstein's interpretation, we have to conclude that in relativity theory the future is in no way present in the present (any present), which allows us to conclude that relativity theory is **compatible** with the view that time is irreversible, that the future is partially indeterminate and that we are free. It is interesting to note that the young Einstein recognised this as he was aware of the different status of the time component in the four dimensions of space-time, which led him to say that "we cannot send wire messages into the past".⁸ Yet as we pointed out, he changed his mind later on - influenced by Gödel, who wrote an

⁶ Capek, 1976, p. 510-516.

⁷ Hawking, 1988, p. 29.

⁸ Capek, 1976, p. 502-503: Reference is made to Einstein, 1928, p. 161.

article in favour of a static interpretation of space-time in 1949.⁹ Einstein then concluded that the apparent irreversibility of time may only mark the world of the middle dimensions, while being absent from both the microscopic and the macroscopic scale.¹⁰ As he adopted the reversibility of all interactions from classical or Newtonian physics, the future had to be determined. The openness of the future only related to our lack of knowledge. A better knowledge would reveal nature's immutability.

⁹ Gödel, 1976, p. 455-461.

¹⁰ Capek, 1976, p. 505: Reference is made to Einstein, 1949, p. 688; Prigogine, 1984, p. 294: Prigogine mentions that Einstein also thought irreversibility to be an illusion produced by improbable initial conditions. Reference is made to Einstein, 1972.

Chapter Four: Thermodynamics as a Serious Challenge to the Determinism of Scientific Materialism

Another area that has raised immense controversy as to the question if nature is a deterministic system is thermodynamics, to which we now turn.

Thermodynamics is the study of the behaviour of heat and its transformations to and from mechanical work.¹ Our everyday experience that there are irreversible processes, for example that broken cups cannot mend themselves, has some scientific evidence in the second law of thermodynamics, which states, roughly speaking, that heat cannot flow on its own from cold to hot bodies and that nature exhibits an overall tendency to reduce its mechanical energy. Although the total amount of energy within the universe remains the same (according to the first law of thermodynamics), the total amount of usable energy or mechanical work constantly decreases.² This idea was given precision by the introduction of a quantity called **entropy**, meaning, roughly, a measure of the potency of heat energy. Heat energy does not yield usable mechanical work in a simple system as for example a flask of water or air, if the temperature is uniform throughout the flask. This unchanging state is technically called the 'thermodynamic equilibrium', which has maximum entropy (also

¹ Thermodynamics researches the macroscopic features of a system such as pressure, temperature, volume, enthalpy, and entropy, and so on, and their interrelations. The difference from classical or Newtonian science is that a system is described macroscopically without reference to the laws of motion governing the parts of a system.

² Davies, 1987, p. 15-16.

referred to as maximum disorder).³ Now, if the heat energy, by contrast, is concentrated in a 'hot spot', characterised by lower entropy, then things will happen, such as convections and changes in density, until the heat dissipates and the system reaches equilibrium at a uniform temperature. This explains why the **second law of thermodynamics** can be stated as follows: entropy (=S) never decreases in a closed system, or ds/dt is always positive. In an open system, on the other hand, wherein heat and other sources of energy can be exchanged with the environment, entropy can certainly be decreased. Nevertheless, this local decrease of entropy co-exists with an increase of total entropy of the universe. The total amount of available, potent energy is being dissipated continuously into useless waste heat. Paul Davies has argued, among others, that this inevitably leads to the heat death of the universe.⁴ Yet this is not without controversy. David Bohm, for example, has argued that the universe may well realise new possibilities so that atoms and molecules may disappear and be replaced by new things with energies as yet unknown.⁵ Whatever be the case, the fact that the entropy in the universe is increasing seems to imply that there is an **asymmetry** in time: tomorrow there will be more entropy than today, an irreversible or asymmetrical process. It is not clear why entropy increases towards the future rather than towards the past. Since this arrow

³ The kind of disorder entropy is associated with should not be confused with the kind of chaotic behaviour displayed by complex systems, which - contrary to the state of maximum entropy - are precisely characterised by highly complicated behaviour.

⁴ Davies, 1987, p. 15-20; Eddington, 1976, p. 463.

⁵ Bohm, 1976, p. 558.

of time is pointing in the direction of degeneration and death, we could call it the pessimistic arrow.

Alongside this entropy arrow, there exists another arrow, which may be called the optimistic arrow of time: in open systems, there may be a decrease in entropy or a growth in complexity, information, or organisation. Synergetics is the name sometimes used for the study of the emergence of order. Apart from decaying, the universe is progressing through the steady growth of structure, organisation, and complexity.⁶ Living organisms are the best examples of growth in organisation. Their increase in organisation is only possible because of their openness towards the environment: a constant inflow of materials and energy from the environment is a necessary condition for the development of life. Indeed, there is a kind of trade-off: local decrease of entropy goes hand in hand with global increase of entropy. Living organisms, when developing, improve the quality within their system, but create entropy in the process. This entropy is transported to the environment.⁷ Whereas organised activity in a closed system necessarily decays in accordance with the second law of thermodynamics, so-called 'dissipative structures' evade the degenerative effects of this law by exporting entropy to their

⁶ Davies, 1987, p. 15-20.

⁷ Zeh, 1992, p. 67: It is because of this export to the environment that entropy is split up in two factors ($dS = deS + diS$). The first factor refers to the entropy being exchanged with the environment, the second to the internal production of entropy within the system. It is perfectly possible for entropy to decrease within the system, on the condition that the entropy outside the system increases at least as much. See for further details also Prigogine, 1980, p. 5-9.

environment. By dissipation of entropy, these systems are able to maintain themselves and to resist the 'arrow of death'. They maintain their coherence and order, and may even increase it, while the total entropy of the universe continually rises.

The observation that far-from-equilibrium dissipative systems contain a potentiality to develop new structures has led Prigogine to speak of "active matter" and Davies to conclude that "nature has 'free will'".⁸

To me, however, it is not clear how we can conclude that nature has free will from the observation that some systems display fascinating and seemingly unpredictable behaviour. This is so because of at least the following two reasons.

Firstly, the concept of 'free will' presupposes the existence of some sort of consciousness, and there seems to be no evidence for the view that nature as a whole or all natural things are conscious.

Secondly, - as mentioned before - unpredictability is not the same as indeterminism (which is a necessary condition for there being free will). The former relates to our epistemic limitations, while the latter refers to an ontological feature of reality. In this respect, Davies' use of 'intrinsic unpredictability' is confusing as it combines a property that is somehow considered to be 'intrinsic' to the world we observe with a specifically human incapacity to predict.⁹ This raises the fundamental question

⁸ Prigogine, 1984, p. 286; Davies, 1987, p. 88.

⁹ Davies, 1987, p. 89.

whether the observed phenomenon is merely unpredictable because of our lack of knowledge of the state of the system or because of the system making some sort of an active decision, which relates to an inherent capacity of matter to choose between alternatives. Only if the latter scenario is the case would the world (or some parts of it) be - to a relative degree - indeterministic. Prigogine seems to adopt this position.¹⁰ Yet this is not at all clear from his experiments: the intricate behaviour of the Belousov-Zhabotinski reaction or the Brusselator - two examples of dissipative systems researched by Prigogine - may be quite fascinating, but every time we repeat these experiments we observe similar outcomes, which makes the observed pattern even quite predictable.¹¹ So I do not think, *a fortiori*, that this experiment yields support for the view that nature is indeterminate.

In fact, those who do not subscribe to the view that thermodynamics provides evidence for the irreversible process - or indeterminate nature - of reality, are in good company.¹² Boltzmann, one of the founding fathers of thermodynamics, for example, could not reconcile classical time-reversible dynamics with thermodynamics which was supposedly time-irreversible. If

¹⁰ Sklar, 1995, p. 140.

¹¹ See for example Prigogine and Stengers, 1984 and for a more concise presentation and discussion Davies, 1987, p. 85-92.

¹² Grünbaum, 1976, p. 474: Grünbaum, a contemporary philosopher of science who denies that there are irreversible processes, defines the meaning of such a process as "such that no counter-process is capable of restoring the original *kind* of state of the system at another time".

we allow a gas in non-equilibrium to evolve until a time t_0 and consequently invert the velocity vectors, which can be done by computer simulation, then Boltzmann thought the system would return to the initial condition, similar to two billiard balls returning to their original positions after inversion of their velocity vectors. So Boltzmann thought that entropy had the same value for $t=0$ as for $t=2t_0$. Yet this appeared to be in contradiction with the second law according to which an increase of entropy can be expected. This relates to another problem that was also perceived by Boltzmann: if the state of thermodynamic equilibrium is by far the most probable state for a system (which we observe when we put two gases together in a container, for example), then why are there systems in our world that are highly organised (for example living beings), which are far from equilibrium? And why, on the other hand, is there increase of entropy in the part of the universe that we live in? To combine entropy with equilibrium Boltzmann came up with the idea that both increase and decrease of entropy have to be regarded as local and minute deviations in time and space compared with the age and size that mark the universe as a whole, which is in equilibrium.¹³ He concluded:

"In the universe as a whole the two directions of time are indistinguishable, just as in space there is no up or down. However, just as at a certain place on the earth's surface we can call 'down' the direction towards the centre of the earth, so a living organism that finds itself in such a world at a certain period of time can define the 'direction' of time as going from the less probable state to the more probable one (the former will be the 'past' and the latter the 'future'), and by virtue of this definition he will find that his own small region, isolated from the rest of the universe,

¹³ Sklar, 1995, p. 142.

is 'initially' always in an improbable state. It seems to me that this way of looking at things is the only one which allows us to understand the validity of the second law, and the heat death of each individual world, without invoking a unidirectional change of the entire universe from a definite initial state to a final state."¹⁴

This statement shows that Boltzmann adopted a particular relative theory of time, which clearly differs from Newton's concept of absolute time. While for the latter even if some past configuration would return in the present, they still would be two distinct moments, the former would argue that the difference would be only subjective or verbal. What is remarkable, however, is that this relative view of time has often been supported, with astonishing inconsistency, by those defending the absolute view of time. Pierre Gassendi, for example, who was regarded as a predecessor of Newton by Newton himself, argued that time was there prior to the material universe, but at the same time held that it was an 'accident of accidents', which leads Capek to conclude:

"As long as the universe is regarded as an aggregate of the immutable elements, merely changing their positions in space, it cannot possess any real history; thus what we call the direction of time is a local phenomenon which loses its significance on the cosmic scale. (...) From regarding time as an accident of accidents to its complete denial is only one small step."¹⁵

However, contrary to Boltzmann, irreversibility is now more widely accepted to be more than just a subjective illusion. Just like the extinction of the dinosaurs means that they are extinct, for

¹⁴ Popper, 1976, p. 160: With reference to Boltzmann, 1897, p. 392-398; The same idea is expressed in Zeh, 1992, p. 33: "Considered statistically (...) the world should always be in the situation of a heat-death."

¹⁵ Capek, 1961, p. 133.

now and for ever, the universe as a whole may be moving towards its state of equilibrium, its heat death, which is an irreversible process. The recognition of the intrinsic irreversibility of nature seems to be what a contemporary Nobel Prize winner for his work in thermodynamics, Ilya Prigogine aims at. Yet in spite of his claim that irreversibility is intrinsic (and therefore more than a subjective illusion), he does not seem to hold this point of view with consistency. This becomes apparent, for example, where he writes:

"However, to reverse the direction of time would need infinite information; we cannot produce situations that would evolve into our past! This is the entropy barrier we have introduced. (...) It is precisely the infinite entropy barrier that guarantees the uniqueness of the direction of time, the impossibility of switching from one direction of time to the opposite one."¹⁶

Szendrei has argued rightly that, on this account, all that prevents us from reversing the direction of time would be a lack of information.¹⁷ Prigogine, indeed, seems to conceive of irreversibility as some contingent property of the world which only pops up as soon as some degree of complexity is reached. This is shown, for example, where he talks about the evolution of a gas in a nonequilibrium condition until a time t_0 . If we have a short t_0 , there is hardly or any difference between the real evolution of the system and the perfect reversible process, after inversion of the velocities. But the longer we wait before inverting the velocities, the more significant the difference between both evolutions. Prigogine contends that, in order to be reversible, "the gas must remember everything that happened to

¹⁶ Prigogine, 1984, p. 295-296.

¹⁷ Szendrei, 1989, p. 190.

it during the time interval from 0 to t_0 . There must be 'storage' of information".¹⁸ Prigogine seems to argue that the emergence of time irreversibility is dependent on systems reaching a certain degree of complexity. Griffin has argued rightly that in this case

"our own temporal experience, rather than being taken as the basis for the very meaning of time, would be explained by means of the fact that we are examples of those highly unstable dynamic systems in which randomness and therefore irreversibility arise".¹⁹

A further point of debate is what we have to understand by Prigogine saying that a gas is 'remembering' things. Memory has traditionally been reserved to some animals. Does Prigogine presuppose the existence of subjectivity, experience, or forms of consciousness throughout the whole of nature? The fact that he does not seem to do so is shown where he writes:

"God could, if he wished to, calculate the trajectories in an unstable dynamic world. He would obtain the same result as probability calculus permits us to reach. Of course, if he made use of his absolute knowledge, then he could get rid of all randomness."²⁰

The last sentence is significant: it suggests that a precise knowledge of the initial condition is sufficient to predict the determined outcome of a system's evolution. If this is the case, Prigogine is neither attributing subjectivity or spontaneity to nonhuman nature, nor superseding mechanistic determinism.

What Boltzmann's and Prigogine's works show is that thermodynamics does not point unequivocally to the conclusion that time irreversibility is an ontological feature of the world. While for

¹⁸ Prigogine, 1984, p. 245.

¹⁹ Griffin, s.d., p. 57.

²⁰ Prigogine, 1984, p. 271-272.

the former the flow of time is a subjective phenomenon that does not belong to the objective world, for the latter the subjective phenomenon of time is rooted in the fact that we are examples of far-from-equilibrium systems. Against Prigogine, it could be argued that our faith in the irreversibility of time does not depend upon the discovery of dissipative structures in the outside world (of which we are an example), but that it is only because we already have the concept of time that we can call some processes irreversible. This opens room for a **phenomenological** approach to the notion of time (time as rooted in our subjective experience), which is the object of our section on 'Panexperientialism and Pantemporalism' in the sixth section (with the title 'The Case for Panexperientialism') of the second chapter in the final part of this dissertation.

Chapter Five: Quantum Physics and the Collapse of the Determinism of Scientific Materialism

A considerable number of physicists have associated the phenomenon of our mind with its feature of free will with the apparent lack of determinism at the quantum level. This is built on the assumption that quantum physics, contrary to classical or Newtonian physics, **undermines** the validity of **mechanicism**. If quantum mechanics is compatible with the view that nature is indeterminate, which is a necessary condition for there being free will, then it makes sense to have a closer look at quantum physics or quantum mechanics. A new understanding of the nature of elementary particles can help us to understand the connection between mind and matter which has been left unexplained by both mechanicism and dualism.

5.1. The Basic Principles of Quantum Physics

While particles are discontinuous, localised and interacting in terms of momentum, waves are continuous or smeared out and interacting in terms of phase. For the study of both phenomena there were separate theories in classical physics. But by the beginning of this century it became clear that things that had previously been regarded as either particles (for example electrons) or waves (for example photons) were in fact displaying sometimes particle-like and at other times wave-like behaviour. Quantum physics was born in 1900 when Max Planck suggested that waves could not be emitted at an arbitrary rate (as was believed

before), but only in packets that he called **quanta**. Each quantum had a certain amount of energy which was greater the higher the frequency of the waves.¹ But it was not before the 1920's that classical mechanics was reformulated into a new theory that was called quantum mechanics. This was mainly the work of Werner Heisenberg, Erwin Schrödinger, and Paul Dirac.²

The wave-particle duality is clearly observed in the **double slit experiment**.

A light source is placed on one side of a partition containing two narrow parallel slits. On the far side of the partition from the light a screen is placed. When one slit is closed, the photons that pass through the slit register as single dots on the screen, which may be seen as particle-like. But when both slits are opened, the result is not simply the summation of the results obtained for two experiments with one slit opened: an interference pattern of parallel bands (light and dark fringes) appears. Some places that had dots when either of the two slits were open are now blank. The two things that the photons might do cancel each other out. The same phenomenon has been observed when electrons, neutrons, and atoms were used instead of photons, and even if they were sent through one at a time. This can be explained only if we assume that the particles must have behaved as a superposition of two waves, each having passed through one slit.

Indeed, through both slits, because - contrary to a widespread opinion - quantum theory is not a probabilistic theory, telling

¹ Hawking, 1988, p. 54.

² Hawking, 1988, p. 54-55.

us how many particles are passing through both slits. Instead, quantum physics describes superpositions or strange combinations of states, weighted by complex numbers. The concrete picture of the state of a mechanical system is replaced by an abstract mathematical concept called the **wave function** or the **state vector**. The double slit experiment, for example, can be represented by a wave function $w X$ (alternative A) + $z X$ (alternative B), where w and z are complex numbers (complex numbers are combinations of real numbers and imaginary numbers, where the latter involve a product of a number with the square root of minus one) and where alternative A might stand for the route taken by the photon through one slit and alternative B for the route through the other slit. As long as a quantum system is not observed, this wave function develops deterministically. Indeed, despite its revolutionary character, quantum theory is in line with the classical tradition: changes over time are conceived as reversible and deterministic. The quantum state at a later time is completely determined by the quantum state of the system at the beginning of the time interval. The development in time of the wavefunction, a superposition of states, obeys a reversible, deterministic equation, the famous **Schrödinger equation**.³

This creates big problems, as illustrated in the well-known **Schrödinger cat paradox**.⁴ This is a thought experiment invented by Schrödinger wherein a cat is locked up in a box witnessing an

³ Penrose, 1995, p. 259-263; Haroche, Raimond, and Brune, 1997, p. 50-53; Prigogine, 1989, p. 150.

⁴ For the original description, see Schrödinger, 1983, p. 152-167.

atom that can either decay (in which case a device would be triggered that kills the cat) or not decay at a certain time. If quantum theory holds true up to the level of such relatively large subjects as cats, then we have to conclude that the cat is both dead and alive, simply because we know that a quantum state is a superposition of states!

What is clear is that we never observe a cat which is both dead and alive. Indeed, the wave function abruptly **collapses** or **jumps** so that we see either a living or a dead cat. This phenomenon is also called the **reduction of the state vector**. When an observation or measurement is made, only one of the possible alternatives is realised. It is only when the measurement has been made that one of the possible values described by the wave function has been realised. Thus it is not correct to hold that the quantum state of the cat tells us that there is an equal probability of the cat being either dead or alive. This is because the complex numbers that pop up in the Schrödinger equation do not yield probabilities. It is only after we have taken the squared moduli of the complex numbers that we obtain real probabilities. (The squared modulus of a complex number is the sum of the squares of its real and imaginary part.) This is what happens when a measurement is made. It is only here that probabilities come into play, since we are now dealing with real numbers. Complex numbers do not yield probabilities. In other words: before we make a measurement, the evolution of a quantum state is always a unitary evolution or Schrödinger evolution. Strict determinism holds at this level. Only when we make a measurement we see one of the

alternatives being realised, which may lead one to believe that indeterminism comes into play.

At the same time the measurement we make is constrained by the Uncertainty Principle, formulated by Werner Heisenberg in 1926, which states that the more accurately we can determine the value of one variable, say the position of a given particle, the less accurately we can know the value of another variable, say the velocity of a given particle. This is illustrated by the light scattering experiments, where measurements are made on particles by shining light on them (which is an important way in which measurements can be done on quantum objects). Since some of the waves of light will be scattered by the particle, we will be able to determine the position. We will have to use light of a short wavelength to measure the position accurately. We know by Planck's quantum hypothesis that we can not use an arbitrarily small amount of light (but at least one quantum) which inevitably imposes limits upon our measurement determined by the distance between the wave crests of light. Since the energy of a quantum of light is higher when the wavelength is higher, our measurement will disturb the velocity of the particle proportionally to the accuracy we achieve in determining the position.⁵

It is a matter of great controversy whether this uncertainty on our behalf corresponds to a fundamental **indeterminacy** in the world. A great number of scientists and philosophers of science simply equate the unpredictability implied by the Heisenberg

⁵ Penrose, 1995, p. 263-268, p. 333-334; Haroche & Raimond & Brune, 1997, p. 51-54; Hawking, 1988, p. 54-55.

principle with the view that the world is indeterminate. A scientist as distinguished as Stephen Hawking, for example, argues on the same page that the "uncertainty principle is a fundamental, inescapable property of the world" and that we "could still imagine that there is a set of laws that determines events completely for some supernatural being, who could observe the present state of the universe without disturbing it".⁶ This is tantamount to saying that the uncertainty relates to an ontological indeterminism in the world and that it does not (but merely relates to an epistemological limitation), which is clearly contradictory.

The issue whether or not quantum theory supports a deterministic picture of the world gained considerable impetus in connection with experiments dealing with one of the strangest features of quantum physics: **non-locality** or **quantum entanglement**. This feature was discussed in a seminal paper by Einstein and his colleagues, Podolsky and Rosen, published in 1935 (the same year as the publication of the Schrödinger cat thought experiment). They proposed an experiment (which was tested in the laboratory later) that is known as the EPR experiment.⁷ While the original argument used the properties of momentum and position, a different version was presented by David Bohm (hence also called the EPRB experiment) which will be presented here: a particle of spin 0 splits into two particles of spin a half, say an electron (A) and a positron (B), which are emitted conjointly from a source and

⁶ Hawking, 1988, p. 55.

⁷ See Einstein & Podolsky & Rosen, 1935, p. 777-780.

fly off in opposite directions, say left and right.⁸ If quantum theory is right, measurement of the spin of one of the particles would instantaneously, and at a distance, fix the spin state of the other. In other words: it is not so that it is the choice of measurement on one particle which passes on information to some 'hidden variable' which would then determine the outcome for measurement on the other particle. Because the two measurements would be made virtually at the same time and at vast distances from one another, no causal interaction would be possible. Yet if quantum theory is right, it is the case that when the measurement of the spin of A is measured, then the spin of B is also certain. The value of B is fixed when the spin of A is measured. This raises the question how B could 'know' which component of A's spin one chooses to measure. Further, according to quantum theory the particles would have no definite spin until a measurement was made. Therefore, Einstein and his colleagues concluded that quantum theory had to be incomplete and that there had to be hidden variables in each of the traveling particles which would determine a particular outcome. In other words, while in flight B's spin must already have had a definite value, and not a superposition. This had to be so because: 1/ the theory of relativity forbids any sort of instant or **superluminal signalling (action-at-a-distance)** or non-local interaction between particles, and 2/ Einstein accepted **deterministic realism** or a belief in the definiteness of properties of the particles regardless of

⁸ Bohm, 1995, p. 71-73; Gell-Mann, 1995, p. 170-171; Hawking, 1988, p. 66: The spin of a particle tells us how a particle looks like from different directions. For example, a particle of spin 0 looks the same from every direction, while a particle of spin 2 looks the same if one turns it half a revolution.

experimental apparatus or measurements of these properties. In other words: physical phenomena are produced by physical interactions which are local and have definite properties at all times, irrespective of our knowledge of them. Deterministic realism also means that, if we had complete knowledge of the state of a system at any time, the state of the system at any other time would be uniquely determined.⁹

In 1965, John Bell showed the possibility for experimentally testing the ideas of the EPR experiment. Bell defined precisely what must be the case if a locally realist theory is correct and concluded that the correlations between measurements predicted by quantum mechanics clashed with any locally realist theory.¹⁰ In 1982, Alain Aspect and his colleagues Dalibard and Roger, tested the EPR experiment experimentally and showed clearly that the hidden variable assumption is wrong. An 'excited' atom emits two photons that fly off in opposite directions. The property that is measured in the Aspect experiment is called 'polarisation'. We could think of this property in terms of each photon of polarised light carrying an arrow pointing in a certain direction. There are two detectors on each side, one of which detects for polarisation in one direction and another one which detects in another direction. The photon is directed to a switch which can direct it to either of the two detectors. Aspect was able to change the switch a 'long' time after the photons had been emitted and just before the photons arrived at the switch. Since the

⁹ Penrose, 1995, p. 292-296; Gell-Mann, 1995, p. 168-173.

¹⁰ Gell-Mann, 1995, p. 171-172.

decision which type of measurement was made on, say, the left detector was delayed until the last moment during which the photons were in flight (and in a superposition of states), it was too late for any signal to arrive at the right particle before it hit the detector. Yet at the moment the polarisation of the photon on the left is measured, the wave function of the other photon also collapses. The value measured on the left fixes the value measured on the right.¹¹

This shows that it is no longer possible to split up the universe into the localised parts that constitute it in order to have an adequate theory of what is actually going on.¹² What happens at a point in space depends upon what happens in the wider environment, and in principle upon the entire universe. To quote the words of Paul Davies:

"In principle, all particles that have ever interacted belong to a single wave function - a global wave function containing a stupendous number of correlations. One could even consider (and some physicists do) a wave function for the entire universe."¹³

Indeed, the reality of any particle is essentially interwoven with the reality of the rest of the universe. This has brought Bohm to reject **mechanicism** and its conception of relations as external. Bohm has argued that the ultimate units of nature are what they are because of their **internal relations** to other units, and that the whole even has the power to organise its parts (downward

¹¹ Aspect & Dalibard & Roger, 1982, p. 1804; Zeh, 1992, p. 91; Penrose, 1995, p. 290-296.

¹² Sklar, 1995, p. 217-218; Davies, 1987, p. 165-177.

¹³ Davies, 1987, p. 177.

causation), pointing out that the whole of chemistry and the phenomenon of superconductivity may depend upon this idea.¹⁴

We could question if the apparent non-locality clashes with the special theory of relativity. Penrose and Gell-Mann, for example, have pointed out that the phenomenon of entanglement is very subtle: it does not entail that signals are sent which are faster than the speed of light, which is important for quantum theory's consistency with the theory of relativity. In Penrose's words:

"It is somewhere between objects being separate and being in communication with each other - it is a purely quantum mechanical phenomenon and there is no analogue of this in classical physics."¹⁵

To understand what 'non-locality' is, we need to know what we mean by 'locality'. If we look at 'locality' a little more closely, we find that it is a combination of two assumptions: '**parameter independence**' and '**outcome independence**'.¹⁶ In terms of the Aspect experiment, parameter independence means that the direction in which we set up the apparatus on one side does not affect the outcome on the other side. Outcome independence means that the measurement of polarisation on one side can not influence the outcome of the measurement on the other side. We can now argue that quantum mechanics is incompatible with both or with either of them.

The conventional answer to this fascinating problem was articulated by Niels Bohr - the founder of the Copenhagen interpretation - who argued that outcome independence has to be

¹⁴ Bohm, 1988, p. 64.

¹⁵ Penrose, 1997, p. 66.

¹⁶ Shimony, 1993.

rejected. Not the parameters in the experiment result in the observed entanglement (for example the experimenter's choice to detect for polarisation in a certain direction), but the sheer act of measurement. There is only a conflict with the theory of relativity as long as one conceives of the particles as both having well-defined positions and motions prior to the observations. It makes no sense to think of an isolated quantum system as having definite properties, because we can never know what these properties are apart from our measurements. Applied to the Aspect experiment, this means that it is not right to speak of two photons emitted from one source and travelling to two separated detectors at which they are measured. It is even incorrect to assume that two separated photons exist. It is rather so that the measurement causes the separation. We can speak of two separated photons **only when** the measurement takes place.

This means the **end of classical realism** or the idea that particles have well-defined properties, such as position, momentum, energy, and spin, both before and after our measurement. But the problem that we have not tackled yet is what constitutes a measurement. Bohr thought that a measurement situation split the world into two components, the measuring apparatus and the measured system, and that before a measurement is made the world is a mere collection of potentialities. This implies that the world of quantum physics turns into a world that can be described by classical physics somewhere between the world of the small (for example atoms) and the world of the larger objects (for example cats). But as we have seen in the Schrödinger cat paradox, the

problem with this view is that a cat (and any macroscopic entity) can also be seen as made up of atoms and therefore subjected to the world described by quantum physics. The whole system (including measuring device) can then be seen as existing in a superposition of states awaiting further measurement, and so on, *ad infinitum*! Even the human observer could be seen as existing in limbo until somebody looks. It is clear that this leads to an infinite regress. Given the lack of an appropriate definition for what constitutes a measurement, what this may amount to is a radical doubt about the reality of any observation we make. Yet this does not fit in nicely with our commonsense perception of the macroscopic world: we observe one reality rather than a superposition of states!¹⁷ Therefore, it may be worthwhile to reconsider **Whitehead's metaphysical scheme**, since it provides possibilities for keeping to a form of 'realism' (the view that the world we observe corresponds to the way the world 'really' is) whilst also dealing with non-locality. For Whitehead space and time are no separate dimensions in which all events take place, but properties of the relations between all things (called: actual occasions). Whitehead has taken Einstein's special theory of relativity on board as for him the past is no absolute dimension, but relative to any given actual occasion: the past is simply constituted by those actual occasions that contributed to the present actual occasion's concrescence.¹⁸ Whitehead rejects - contrary to Bohr - parameter independence by holding that the

¹⁷ Sklar, 1995, p. 216-218, 187-190.

¹⁸ For an adequate understanding of this sentence, see chapter two in the final part of this dissertation.

experimental setup does influence the outcome (because of the interrelatedness of all actual occasions), but there are other factors. Rather than considering the outcome of a measurement to be determined by the measurement situation (Bohr), Whitehead argues that the actual occasion or "the subject completes itself during the process of concrescence by a self-criticism of its own incomplete phases".¹⁹ What this amounts to is a form of realism in which the superposition is considered to be incomplete and awaiting further completion by the actual occasions reaching 'satisfaction'. The actual occasions are **determining** their own final classical properties **themselves**. What this interpretation gets rid of is the peculiarity of the measurement situation. Instead of the act of measurement or the measurement situation, it is the actual occasions themselves which account for the collapse. The multiple prehensions constituting an actual occasion have derivative reality analogous to the superposition of states in a quantum system.²⁰

5.2. A Summary of the Main Positions in the Debate on the Relevance of Quantum Physics to the Determinism-Indeterminism Issue

We will now tackle the relevance of quantum physics to the determinism-indeterminism issue at greater length. At least five positions can be distinguished in the ongoing debate.

¹⁹ Whitehead, 1978, p. 244.

²⁰ What this amounts to is panexperientialism, which will be defended in the second chapter of the final part of this dissertation.

Firstly, there is the position that the **apparent** indeterminacy is not a real feature of the world, but that it only relates to a temporary human ignorance. This view is supported for example by Einstein and Planck, who believed that strictly deterministic laws that yet have to be discovered govern the subatomic world. Quantum mechanics is incomplete and there are no superpositions. Einstein, for example, thought that there were hidden variables or some properties that particles had before being measured and that would fully determine the values of the particles upon measurement. The underlying epistemology is deterministic classical realism: the individual particles have a complete set of fixed properties, such as charge, position, spin, and momentum, both before and after the making of a measurement. We do not know yet, but once we know all the laws of nature, precise prediction of the behaviour of all particles will be obtained.²¹

Secondly, some scientists and philosophers support the linear and deterministic dynamics of the theory. In other words, the collapse is regarded as unreal and the real world is seen as a superposition of states. Sometimes this leads to the **many-worlds** interpretation, wherein Schrödinger's cat really is both dead and alive, but inhabiting different universes and accompanied by different observers.²² Epistemologically, this may be labelled with deterministic quantum realism: quantum theory is correct and the superpositions predicted by the theory apply to the world.

²¹ Sklar, 1995, p. 204-206; Penrose, 1995, p. 312-313; Barbour, 1997, p. 171.

²² The many-worlds view was developed from Everett, 1957, p. 454-462.

This view is, however, subject to many problems, one of which is the lack of an adequate theory of perception: why do we never observe superpositions?²³

A third view regards the uncertainty as a permanent limitation preventing exact knowledge of the world. This view is maintained by those physicists (for example in the early writings of Heisenberg) who argue that our process of observation is subject to inescapable conceptual limitations so that we have to remain **agnostic** about whether or not the world is determined. This view may go hand in hand with an instrumentalist epistemology according to which scientific theories are tools for the correlating of observations, the making of predictions, and the acquiring of technical control. It may be objected that the fact that we are able to correlate some observations shows that we have gained some insight into how nature works, and that we may induce from this whether or not the world is a deterministic system.

A fourth position holds the measuring observer to be responsible for the collapse of the wave function and the introduction of indeterminacy. What is underlying this view is a very specific form of **dualism** which separates the determined natural world from the free and determining human mind. Von Neumann, for example, argued that the making of a measurement splits the world into two parts: the observer and the observed system. This raises the question whether the collapse only occurs when we are measuring, and - if so - what would then make a measurement so special? More

²³ Penrose, 1997, p. 74-76.

radical interpretations claim that it is not the act of measurement, but the conscious observer, which produces the collapse. Some even regard the objective outside world as the product of the activity of our consciousness. Epistemologically this amounts to some sort of neo-hegelian idealism wherein the mind causes the natural world.²⁴ But this may be far from the truth. This has been perceived well by Zimmerman:

"What we describe as the 'position' and 'momentum' of a particle do not correspond to subatomic reality, but are ways of representing in terms of classical physics the results of the interaction between subatomic reality and measuring apparatus. Classical physics sought to describe atoms as tiny substances with properties in three-dimensional space. (...) Hence, despite the fact that subatomic reality can only show up for us in the laboratory as a result of interactions between reality and measuring apparatus, this does not mean that the reality itself is *constituted* by that interaction. What we call 'objective' features of that reality are those properties that are constituted by the measuring activity. For Bohr, there was still a 'reality' independent of us, but it could only manifest itself objectively, i.e., as an object within the space-time parameters of classical physics, in terms consistent with the entire experimental situation established by the investigator. Trouble arises if we speak as if the *consciousness* of the human subject is what interacts with atomic reality, because in fact the interacting 'agent' is a complex and often enormous *machine*. The human subject notices and interprets the findings of such interactions; those findings remain an 'object' for the knowing 'subject'."²⁵

What the interpretation supported by Zimmerman may amount to is

²⁴ Barbour, 1997, p. 172-173; For the position of von Neumann, see for example chapter six of von Neumann, 1955.

²⁵ Zimmerman, 1988, p. 11; Yet there are controversial positions in favour of the view that human subjects, by their conscious activity, realise or 'objectify' what happens in the universe. See for example the views of Eugene Wigner and John Wheeler in Gribbin, 1984, p. 208-213. Even more controversial is the view that the presence of humankind in the universe is directly related to the character and even the origin of that universe. For this point of view see for example Tipler and Barrow, 1986.

a fifth view, which regards the collapse as an objective aspect of the world (that is independent of the act of measurement). Epistemologically, scientific theories are held to be models or representations of the world, albeit imperfect ones:

"Models are symbolic representations of aspects of interactive reality that cannot be uniquely visualized in terms of analogies with everyday experience; they are only very indirectly related to either the atomic world or the observable phenomena. But we do not have to accept an instrumentalism that makes theories and models useful intellectual and practical tools that tell us nothing about the world".²⁶

Instead, we have to look for an adjustment of the quantum theory which makes it possible to make sense of the collapse of the wave function. Within this fifth view we may differentiate between those who do and those who do not believe that an as yet unknown natural law is operating which completely determines the collapse. Penrose, for example, has suggested that the collapse is related to the phenomenon of the curvature of space-time, which is accounted for by general relativity. Another proposal describes the collapse in terms of a 'decoherence' or a 'blurring' of the quantum interferences as a result of interactions with the environment. Such blurring is appearing in any system made up of a large number of particles. Recent experiments performed by the physicists Haroche, Raimond, and Brune at the *Ecole Normale Supérieure* in Paris, have shown for the first time the moment when the interferences associated with the bizarre quantum superpositions disappear. The collapse occurs more quickly as the number of particles within a system becomes larger. This seems to cut the ground from under the second, third, and fourth

²⁶ Barbour, 1997, p. 169-170.

position outlined above: there is no need for a human observer for the collapse of the wave-function to take place.²⁷

What remains the case, however, is that quantum mechanics does not tell us which observable will be obtained or collapsed when we perform a single experiment. It only yields probabilities for a number of identical experiments. Only a set of probabilities for different possible histories of the universe can be calculated. The following example provides an illustration of the probabilistic nature of quantum theory: a radioactive atomic nucleus has a 'half-life', being the time during which it has a 50 percent chance of disintegrating. The half-life of Pu239, the usual isotope of plutonium, is about 25000 years, meaning that there is a 50 percent chance that a Pu239 nucleus in existence today will still exist after 25000 years, and only a 25 percent chance after 50000 years, and so on. So for a given Pu239 nucleus the exact moment of disintegration is unknown. Only a curve of probability against time can be drawn. Moreover, the direction of the decay products is unpredictable. If we suppose that the Pu239 nucleus is at rest and will decay into two electrically charged fragments going in opposite directions, then there is no way to tell which way one of the fragments will go.²⁸ This brings Gell-Mann to state:

"If so much is unknowable in advance about one atomic nucleus, imagine how much is fundamentally unpredictable about the entire universe, even given the unified theory of the elementary particles and the initial condition

²⁷ Haroche & Raimond & Brune, 1997, p. 50-55.

²⁸ Gell-Mann, 1995, p. 131-133.

of the universe."²⁹

This conclusion has been given support by recent work of Stephen Hawking who has done a lot of work on combining quantum theory and gravity. Hawking has argued that information gets lost in macroscopic black holes (enormously dense concentrations of matter resulting from collapsed stars). The gravitational field of black holes is so powerful that objects are swallowed up and their information gets lost. He has postulated that this could also be the case in processes in which microscopic, virtual black holes appear because of quantum fluctuations of the metric. Particles and information fall into these holes and get lost. One might think that the information still exists within the black hole. But this is not the case. Indeed, Hawking discovered that black holes are not completely black, since particles and radiation are emitted at a steady rate. The striking thing is that the emission is independent of what goes in! So the information of what went in is irretrievably lost, because the black hole becomes steadily smaller until it reaches zero mass and disappears. For Hawking, this means the end of the idea of 'unitary evolution' or the assumption that a system in a pure quantum state evolves in a unitary way through a succession of pure quantum states.³⁰ Hawking has commented on this as follows: "It means an end to the hope of scientific determinism, that we could predict the future with certainty. It seems God still has some tricks up his sleeve."³¹

²⁹ Gell-Mann, 1995, p. 133.

³⁰ Hawking and Penrose, 1996, p. 59-60.

³¹ Hawking and Penrose, 1996, p. 60.

This may provide room for the view that the collapse is an objective aspect of the world that cannot be accounted for by any theory as it marks the moment when a decision is made out of a number of possibilities. The future is not just unknown, it is as yet undecided as many alternatives are open, even for God. There is some room for the emergence of novelty. As we have seen, this conclusion is supported by a Whiteheadian account of quantum physics, the consequences of which will be spelled out more fully in the section on panexperientialism in the final part of this dissertation.

Here, I like to conclude that the discovery of indeterminacy in the world and the observation that the ultimate units of nature are internally related to one another (with the associated phenomenon of non-locality) question scientific materialism radically and may connect human beings more intimately with nonhuman nature. This is so because human beings have always believed in the indeterminacy of their faculty of free will and in the fact that what they are depends largely on their relationships with other humans and with nonhuman nature. To argue that we find indeterminacy and internal relations in all natural entities means that we can no longer be conceived as gypsies in a mechanistic universe. That this has strong repercussions for the development of an ecological ethic which questions strong anthropocentrism - the aim of the second part of this dissertation - has been illustrated beautifully by Bohm, who wrote:

"If we think of the world as separate from us, and constituted of disjoint parts to be manipulated with the aid of calculations, we will tend to try to become separate people, whose main motivation with regard to each other and to nature is also manipulation and calculation. But if we can obtain an intuitive and

imaginative feeling of the whole world as constituting an (...) order that is also enfolded in us, we will sense ourselves to be one with this world. We will no longer be satisfied merely to manipulate it technically to our supposed advantage, but we will feel genuine love for it. We will want to care for it, as we would for anyone who is close to us and therefore enfolded in us as an inseparable part."³²

Unfortunately, most quantum physicists - being accustomed to a mechanistic worldview - would not share Bohm's view. This has been perceived well by Zimmerman, who acknowledges that views such as Bohm's may be supported by quantum physicists, but at the same time that for "the majority of physicists (...) their work in quantum physics does not necessarily lead to any shift in their relationship with or their appraisal of nonhuman reality".³³

5.3. Quantum Physics and the Mind-Body Problem

In the last two decades, the interest among physicists in connecting the activity of the mind with physics (especially quantum physics) has grown.³⁴ This interest is particularly focused on the problem of **free will**, arguably one of the most characteristic features of the human mind. It may seem bizarre that physicists devote a lot of attention to an old philosophical problem, but at a closer look this should not surprise us. Science is rightly motivated by the search for a sufficient explanation for all there is. The tremendous successes achieved in theories and their technological applications in the last few centuries

³² Bohm, 1988, p. 67.

³³ Zimmerman, 1988, p. 12.

³⁴ See for example Davies, 1987, p. 183-196; Zohar, 1990; Penrose, 1995 and 1997.

may have led some to believe that efficient causes provide sufficient explanations for all there is, and that there is no need to invoke final causation. But if there is quantum indeterminacy, then not all physical events are sufficiently determined by their physical antecedents, which is important for the concept of free will. Whether or not there is free will does not depend upon quantum indeterminacy, but it is the case that some sort of indeterminacy, quantum or not, is a necessary condition for the freedom of the will to emerge.

Most physicists have adopted a reductionistic approach where the possibility of downward causation, for example from the mental to the material, is excluded or overlooked from the start. All mental forces can, in principle, and have to be reduced to the study of the material particles that compose it. This view is held, for example, by Gell-Mann and by Penrose, who argues that "the physical world behaves according to mathematics" and that "we have the challenge of understanding the mental world in terms of the material world".³⁵

Other scientists are more sceptical. Paul Davies, for example, argues for downward causation or the view that the "mind (...) somehow produces forces that act on matter", where each level of organisation leading up from subatomic particles to the mind operates according to its own laws, which leads him to conclude that quantum mechanics is irrelevant to the explanation of the

³⁵ Penrose, 1997, p. 97-98; Gell-Mann, 1995, p. 116-120.

mind.³⁶

In the final part of this dissertation we will develop a case for panexperientialism wherein downward causation, for example from the mind to the body, is taken seriously. However, we have to point out here that we do not agree with Davies' view that quantum mechanics is irrelevant for understanding the mind. If we start from a scientific materialist ontology, it is inconceivable how the mind could have emerged from entities that are wholly devoid of mind-like aspects, such as experience, subjectivity and self-determination. But if the ontological interpretation of the indeterminacy of quantum mechanics holds true, however, scientific materialism has to be discarded. If the collapse of the wave function depends on particles having a capacity to determine themselves, there is room for a **Whiteheadian alternative** to scientific materialism wherein - in the words of Shimony, the Whiteheadian philosopher of science - "mentality (...) is something ontologically fundamental in the universe".³⁷

³⁶ Davies, 1987, p. 191, 189.

³⁷ Shimony, 1997, p. 153; Another interesting research programme is whether or not, and how, quantum non-locality, entanglement, or coherence could be connected to the emergence of higher forms of unified consciousness.

Part Two: In Search of an Ecological Ethic

As we have pointed out in the first part of this dissertation, scientific materialism with its concept of nature as a mechanistic, deterministic system has often legitimated an ecological ethic which denies the idea that nature has intrinsic value, and furthered an exploitative attitude towards nonhuman nature. This was even more evidently so for the alternative mainstream philosophy of modernity, that of dualism: if human beings are the big exception in a world that is otherwise totally governed by efficient causation, there does not seem to be any reason why we should respect nonhuman nature: as all nonhuman entities seem to be without purpose, there is nothing for us to respect.

Although the articulation of a particular ecological ethic may not always be determined by belief in either determinism or indeterminism, we will argue here that a ruthless and exploitative ecological ethic is more likely to go hand in hand with belief in either scientific materialism or dualism, while a more respectful way of engaging with nonhuman nature is more likely to be accompanied by belief in the fact that all individual natural entities are indeterminate (in the sense of: self-determining) - which leads to a position that provides an alternative to both materialism and dualism. This view (which is known as panexperientialism) will be defended in the second chapter of the final part of this dissertation.

The motives, however, for regarding not only human beings, but also nonhuman nature as object of moral consideration, are very diverse. It would be simplistic to characterise the resulting attitudes as either ruthless or respectful. In this chapter we will propose a classification of current ecological-ethical models by distinguishing between strong anthropocentrism, 'pathocentrism', biocentrism, and ecocentrism or cosmocentrism. Finally, a personal alternative will be argued for by critical reflection upon the other models. This will be a plea for a weak form of anthropocentrism.

Chapter One: Strong Anthropocentrism

Strong anthropocentrism holds that human beings have direct duties **only** towards human beings.¹

To explain the notion of **direct duties**, reference can be made to Immanuel Kant, who made a distinction between *Pflichten gegenüber* (which could be translated as 'direct duties') and *Pflichten in Ansehung von* (which could be translated as 'indirect duties'). Gratefulness for an old horse after a long life of hard labour on the farm, for instance, could, according to Kant, only be seen as an indirect duty to the horse, and as a direct duty of humanity to him- or herself. This distinction has to be understood as a consequence of Kant's conviction that the only reason for recommending a friendly attitude towards animals is that brutality towards animals could possibly have a negative influence on our relations with other human beings.²

Strong anthropocentrism is often justified by the argument that only human beings are **self-conscious** or **rational**: in opposition

¹ This position can also be called 'radical speciesism'. The word 'speciesism' was introduced in 1970 by Richard Ryder (see Ryder, 1970 and 1974) and its definition and popularisation is largely due to Singer, 1976, p. 7 where it is defined as "a prejudice or attitude of bias toward the interests of members of one's own species and against those members of other species". We will argue, however, for a form of speciesism that is not biased in chapter five (a proposal for a weak anthropocentrism).

² Kant, 1902, Vol. 5, p. 442-443 (*Kritik der reinen Vernunft*); See also Aquinas, SCG III, 112, 9-13: This is also Aquinas' position (as we will see in the second section of the first chapter of part three). He argues that the writer(s) of the Biblical prohibition of cruelty against animals (for example in Dt 22,6) were not concerned about the well-being of nonhuman animals, but about what was good for humans.

to animals, only human beings can plan rationally their future and break away from immediate and momentary pleasure. Many anthropocentrists find support for this statement, again, in Kant, who argued that the entire nature is there for humanity, since only humanity has the rational capacity to choose goals. Nature as such should not be regarded as teleological or purposive. We can only speak of teleology in nature because humanity understands nature as if she were a teleological reality. The only real teleology within nature is human culture, since only human beings can choose their own purposes. In this Kantian approach, the Aristotelian notion of teleology, which was for Aristotle an inherent property of all natural entities, was narrowed to self-conscious purposefulness.³ But this Kantian view on teleology was preceded by a long - not exclusively Christian - tradition in which the teleology of nonhuman entities had always ultimately

³ Kant, 1902, Vol. 5, p. 434-436 (*Kritik der Urteilskraft*). See also Kant, 1902, Vol. 4, p. 434-435 (*Grundlegung zur Metaphysik der Sitten*); It would be a serious mistake to infer from the above that strong anthropocentrism originated with Kant. The reason why I do not present an historical overview of the rise of strong anthropocentrism here is that it has been done elsewhere. See for example Passmore, 1974 and Deckers, 1992: Suffice it to say that the historical importance of strong anthropocentric ideas and practices grew exponentially from about 1450 onwards. This development went hand in hand with a stronger belief in human capacities and eventually *hubris*. By perfecting the building of, for example, ships - resulting for example in the discovery of America - Western humanity, and especially man, regarded himself more and more as possessor of the world. It makes sense to speak here of an historical dialectic between on the one hand the development of science and technology leading to a more positive anthropology, and on the other hand the latter furthering a more industrious quest for scientific and technological innovations. As a result, Western man presented himself more and more as the focal point of the universe. Women, other peoples, animals, and nonhuman nature in general were marginalised. Not just Western man as such, but also the value of the individual was more and more stressed, often resulting in an extremely solipsistic ego with his/her own - often short-term - time perspective.

been directed towards humanity and God. Aquinas, for example, argued that the order of nature is such that the imperfect things are made for the more perfect things.⁴ Thus the strong anthropocentrist Michael Schlitt argues, referring to Aquinas, that humanity is allowed to kill subhuman living beings "*weil diese auf ihn, den Endzweck der Natur, hingeordnet sind*".⁵ It is interesting to see how Schlitt tries to justify his strong anthropocentric position in further detail: while human beings are persons, and therefore unique, animals and plants coincide totally

*"in ihrer artgemässen, determinierten Entfaltung. Deshalb hat selbst das erbärmlichste Menschenleben einen unendlich höheren Wert als das Leben eines Tieres oder einer Pflanze. Der Mensch besitzt zwar an Stelle des Seins in Gattung und Art etwas anderes, nämlich das Sein in Gemeinschaft, aber dieser gegenüber behält er immer seine personale Individualität und Eigeninitiative. Tier und Pflanze hingegen haben ihrer Art und Gattung gegenüber keinerlei Freiheit, sondern 'unterfallen' ihr. (...) Die subhumane Lebewesen (...) sind fixiert auf die ihrer Art entsprechenden, naturhaft vorgegebenen Determinanten. (...) Die subhumanen Lebewesen erreichen ihr Ziel (verwirklichen ihr Eidos) 'wenn nichts dazwischen kommt' (Aristoteles). (...) In die Verwirklichung des natürlichen Eidos des Menschen drängt sich immer die Freiheit."*⁶

Strong anthropocentrism is here justified by holding that nonhuman nature is a **deterministic system**. In such a system, things lack intrinsic meaning, and by consequence the function of plants and animals lies - according to Schlitt - "*in ihrer Dienlichkeit für*

⁴ Aquinas, ST, IIaIIae, q.64.

⁵ Schlitt, 1992, p. 110.

⁶ Schlitt, 1992, p. 110-111; This is, again, remarkably similar to Aquinas' justification of human exploitation in SCG III, c.112, 2 and 3: Aquinas writes here that only the intellectual creature is by nature free. We will discuss Aquinas' views more thoroughly in connection with his classical theistic system. See further in part three chapter one section two.

den Endzweck der Natur, den Menschen, dem die Aufgabe der Sinnerfüllung der Welt zukommt".⁷

Some remarks have to be made against Schlitt's arguments.

Firstly, I prefer not to characterise nonhuman animals as 'subhuman'. Although human beings may be more valuable than nonhuman beings, I think it is mistaken to call the latter 'subhuman' as the prefix 'sub' suggests that they somehow fail to be human. By analogy, we could allow for animals to be classified as belonging to either rat or 'subrat'. Further, no clear reason can be given why we should not talk about 'suprahuman' animals instead, given the fact that some animals have features that are better developed for specific purposes than similar human features, for example the navigational skills of domestic pigeons which unquestionably exceed our navigational skills. Also, with the word 'subhuman' the vast number of nonhuman beings are referred to from the point of view of human dominance. Hence, I think it is more appropriate to speak of 'nonhuman animals' and 'human animals' where the latter constitute one species of animal in a larger genus.

Secondly, it is not clear to me why we should conceive of human beings as the final ends of nature, and even if this were the case, why would all else be 'naturally' subordinate to us?

Thirdly, although we may not be able to call nonhuman animals personal, I dispute Schlitt's argument that they lack uniqueness. People who study animal behaviour would argue that they have individual characters, a conclusion which is confirmed by genetic

⁷ Schlitt, 1992, p. 111.

research. In the second chapter of the final part of this dissertation, we will provide an argument to support the view that all natural entities have a subjective or self-determining element. This will establish further credit for the view - outlined in part one - that there is indeterminacy in nature. **Fourthly**, I disagree with the idea that nonhuman animals and plants exist primarily for human purposes and receive their main meaning through them. What is thus ignored is that animals and plants have thrived for a long time before human beings arrived on this planet and that they do not need human intervention to satisfy their biological functions. Further, in the last chapter of this part it will be argued that even a world without human beings would not be meaningless.

Schlitt has also posited the view that the duration of the life of a nonhuman animal does not matter because, unlike human animals, they do not understand the death of one of their species members, because they live in the present and lack the capacity to plan the future, and do not have a biography.⁸ In the light of evidence collected by primatologists, for example, we can take none of these reasons seriously.⁹ There is also evidence that even organisms as 'simple' as honeybees have an astonishing capacity to plan the future.¹⁰ In short, there is ample evidence - too much

⁸ Schlitt, 1992, p. 111-114.

⁹ See for example Wrangham and Peterson, 1997.

¹⁰ Armstrong-Buck, 1989, p. 3: Reference is made to experiments performed in the 1930's by Karl von Frisch, describing the 'dance language' of honeybees, which are described in Griffin, 1984.

to be reported here - which shows that it is simply not the case that all nonhuman animals lack awareness of death, do not care about length of life, and do not mourn the death of their species members. Schlitt admits - unsurprisingly in a footnote! - that there are people who disagree with his opinion. But even if this were to be granted, he argues that the reason why we have to respect others does not depend on respect for their biological life, but for their **moral** life, and only humans have moral lives.¹¹ This, however, is erroneous. The whole point of the parable of the merciful Samaritan is that we should respect other people irrespective of their moral life. And in most human cultures even people who can no longer be called moral agents (for example the dying) are still treated with respect.

Another aspect of a strong anthropocentric perspective is that animals, plants, and inorganic entities are often considered to have a **price**, and therefore can be substituted. They only have instrumental or use value for human beings. Only human beings have absolute or **intrinsic value**, since only they exist as ends for themselves.¹² This does not necessarily imply that nonhuman nature does not deserve moral consideration. What it does mean is that it **only** does so **because of** human interests. In this context, strong anthropocentric ecological ethicists propose a number of

¹¹ Schlitt, 1992, p. 111-114.

¹² This does not mean that morality is always directed towards respect for persons as ends for themselves. Sometimes what is aimed at is respect for the maximum utility for the greatest amount of people, where instrumental values are allocated to persons in a procedural way, and utility is defined in terms of a balance of pleasure and pain (hedonism) or some other valued effect.

reasons to stop ecological destruction. They refer for instance to the **general use value** of nature for humanity (such as elementary life needs like eating and drinking), to **aesthetic value**, to **recreative value**, and to **potential use value** or **option value** (the option value is related to the maintenance of a rich biodiversity because, for instance, many species could possess medicinal value by having healing properties as yet undiscovered, which could be crucial for the treatment of human diseases).¹³ Many strong anthropocentrists stress the importance of nature for **future generations** and denounce the giant waste of raw material and the continuous growth of our waste heap. It is precisely out of respect for future generations that Schlitt, for example, proposes what he calls a golden rule:

"Wir dürfen durch unser Handeln nicht Wirkungen und Zwänge schaffen, die die künftigen Generationen Bedingungen unterwerfen, die wir selber und vorhergehende Generationen für nicht menschenwürdig erachten beziehungsweise erachtet haben."¹⁴

It becomes immediately clear that, if people were prepared to follow this rule, a lot of activities that a lot of people are doing on a day-to-day basis would have to be stopped or curtailed.

The **basic problem** with a strong anthropocentric ecological ethic

¹³ Perhaps the one that looks most promising here is the aesthetic value, but at a closer look we have to agree with Sagoff, 1983, p. 21: "The truth is often heard that to value a woman because of her good looks is to trivialize her, to ignore her more important qualities, and to regard her only as an object of use. It is likewise true of the environment." The same point is made in Rodman, 1983, p. 85, who argues that aesthetic considerations "are very subjective and therefore shaky foundations on which to base any kind of ethic".

¹⁴ Schlitt, 1992, p. 62-63.

is that it does not recognise that, although human beings may be the only subjects of moral consideration, this does not imply that they therefore necessarily are the only objects of direct moral consideration. Numerous authors have argued that there are good reasons for the view that (some parts of) nonhuman nature should also be considered as objects of direct moral consideration, and we will focus on the most important reasons in the following sections. Rodman has pointed to another problem with this approach: if things are valuable only because they become resources for humans, then things that are not used by us could be regarded as wasted. Therefore, this approach could lead to an unlimited total-use attitude, which would lead to an unjustifiable species imperialism.¹⁵

¹⁵ Rodman, 1983, p. 83.

Chapter Two: 'Pathocentrism' and Moral Extensionism Towards Nonhuman Animals¹

Some ethicists have argued that we do have direct duties or responsibilities towards nonhuman nature. We will concentrate here on positions which base this conviction on the idea that some parts of nonhuman nature (*de facto*: some or all animals) have interests, where it is held that the capacity for suffering and enjoying things is a condition for having interests, and on positions which base the moral consideration of nonhuman animals on grounds that differ from the capacity to suffer, but extend moral consideration towards those nonhuman animals which are recognised as having some other human-like traits which are deemed relevant. The former position will be labelled as 'pathocentrism', while the latter position can be defined as 'moral extensionism' towards nonhuman animals.² In what follows we will first consider the former.

¹ The word *Pathozentrismus* has been used in German, see for example Schlitt, 1992. The Flemish equivalent *pathocentrisme* was coined in Deckers 1992, hence my suggestion to use 'pathocentrism' in English. I find the term very apt as it is on a par with anthropocentrism, biocentrism, and ecocentrism in that they are all derived from Greek words. The Greek word '*pathos*' means: feeling, suffering. This approach could also be called **utilitarianism**, which equates what is good mostly with what is useful in promoting pleasure and avoiding pain. Some forms of utilitarianism, however, equate what is good more broadly with interests or preferences, which do not necessarily coincide with the having of pleasant experiences and the avoiding of pain. Apart from its usual stress on pleasure and pain, what pathocentrism also has in common with utilitarianism is a procedural allocation of moral value: "the right action is that which maximizes utility (...) summed impersonally across all those affected by that action" (Goodin, 1993, p. 245).

² The pathocentric strand focuses on sentience, which is defined (Singer, 1976, p. 9) as the "capacity to suffer and/or experience enjoyment".

Pathocentrism is a reaction against the fact that many people still find it difficult to agree with the proposition that animals can feel pain, which definitely has to be linked to the mechanistic approach of nonhuman reality that has dominated our Western culture since the Enlightenment. The following report of an eyewitness provides us with a good example of what happened in the late seventeenth century in Port Royal:

"They administered beatings to dogs with perfect indifference, and made fun of those who pitied the creatures as if they felt pain. They said the animals were clocks; that the cries they emitted when struck were only the noise of a little spring that had been touched, but that the whole body was without feeling. They nailed poor animals up on boards by their four paws to vivisect them and see the circulation of the blood which was a great subject of conversation."³

Since most pathocentrists argue for a close connection between the having of interests and the capacity to feel pain (organisms have an interest in avoiding pain and sustaining or increasing pleasure), we need to come to some understanding concerning the meaning of the latter. Schlitt, for example, has argued that with the notion of 'pain' three different things can be indicated.

Firstly, there is the *sensorische Dimension* or the sensible experience of the pain stimulus.

Secondly, the *affektiv-motivationale Dimension* or the feeling of pain.

Thirdly, the *reflexive Dimension*, where - in Schlitt's view - pain becomes suffering. This is the evaluation of pain on the one hand and *Sinn- und Glaubensschmerz* on the other hand, the latter including the pain resulting from for example repentance or the

³ Singer, 1990, p. 201-202.

feeling of not being accepted by other people.⁴

Although I see a difference between the second and the third dimension, the difference between the first and the second is not clear. It may be true that our experiencing with our senses differs from or precedes our feeling of pain, but what is not clear then is why Schlitt would call certain sensual experiences painful. Presumably Schlitt wants to indicate that an instinctive response of an animal preceded by a certain stimulus does not necessarily presuppose the existence of a capacity to feel pain.⁵ But we do not know if this is the case. Further, it is debatable if we should reserve the notion 'suffering' for the reflexive dimension. In any case, many pathocentrists use the notion 'suffering' to cover all three dimensions, without implying necessarily that there are no qualitative differences in animals' capacities to suffer. We will therefore use the terms 'feel pain' and 'suffer' interchangeably.

At one extreme of pathocentrism there is a position which holds that nonhuman animals can suffer and have interests, but which always subordinates these to human interest when interests conflict. More interesting is the position that basic human interests have priority over basic nonhuman interests, but that **basic nonhuman interests** should not yield to **peripheral human**

⁴ Schlitt, 1992, p. 65.

⁵ Perhaps another reason for why Schlitt argues for three distinct levels in the capacity to feel pain relates to his strong anthropocentrism: if you put most animals in the first level, then you do not need to worry much about inflicting pain as it would be minimal anyway.

interests.

What is at stake here is to provide an account of the difference between basic and peripheral interests, which Van de Veer has tried to accomplish. Van de Veer intends to refer with the former to the interests that need to be fulfilled to secure the life of living beings. These can vary between species, since they all have their species-specific good. Food, water, and oxygen are basic interests for nearly all life forms, while for example for humanity also the human rights can be considered to be basic. For a dog to have a toy or for a human being to keep a bird in a cage are only peripheral interests.⁶ Therefore, since it may be a basic interest for a bird to be able to fly, it would not be tolerable to subordinate this interest to a human being's interest in keeping birds in cages, while it would be tolerable to kill a bird to satisfy one's basic need of food.

But even this position has been challenged by a philosopher who is arguably the most influential representative of the pathocentric strand: **Peter Singer**.⁷ Singer defends the view that the interests of animals capable of suffering should be counted equally with human interests. In order to know whether or not a being is capable of suffering he thinks it is necessary to find out whether it tries to escape from the pain stimulus and whether

⁶ Van de Veer, 1986, p. 54-55.

⁷ See especially Singer, 1976 and a revised version in Singer, 1990; Other pathocentric approaches are for example Warnock, 1971 and Frankena, 1978.

or not the nervous system resembles ours.⁸ About twenty years ago, Singer thought that most molluscs were so undeveloped that he found it hard to believe that they could feel pain or have consciousness. Therefore, he drew the line somewhere between a shrimp and an oyster. Shrimps were to be respected, oysters were not. Later he changed his mind and his eating habits to become a total vegan, since he admitted that he did not know whether or not creatures like oysters could feel pain. Singer is anti-speciesist, and supports **species egalitarianism**, which can be defined as follows:

"When there is a conflict of interests between an animal and a human being it is morally permissible, *ceteris paribus*, to subordinate the more peripheral to the more basic interest and not otherwise: facts not relevant to how basic the interests are, are not morally relevant to resolving this conflict."⁹

Van de Veer has challenged Singer's species egalitarianism by asking what we should do when we are faced with situations of interspecific conflicts (that is, conflicts between interests of beings from different species).¹⁰ He works out a position that

⁸ Singer, 1990, p. 2-7; Schlitt, 1992, p. 68: Schlitt's response to the problem that animals lack speech and cannot communicate that they feel pain is similar: "*Je höher die Übereinstimmung der genetischen Ausstattung, desto eher ist damit zu rechnen, dass diese Wesen Schmerz fühlen können.*". I suggest one could say that, although animals lack human speech, some of them do communicate their feeling of pain to us: for example, when dogs howl in specific ways, it will not be difficult for their responsible and attentive owners to tell whether or not this is a reaction to pain and perhaps even a communication of their feeling of pain.

⁹ Van de Veer, 1986, p. 57.

¹⁰ Van de Veer, 1986, p. 58: Van de Veer does not exclude the possibility that animals without feelings, such as protozoa, have interests. Since he pays only marginal attention to this hypothesis, I think we could still classify his approach under the heading 'pathocentrism'. This also because he omits speaking of responsibility towards plants (biocentrism - see chapter

he calls **two factor egalitarianism**. The importance of two things is stressed in the case of interspecific conflicts: we have to determine which of the two conflicting interests is most fundamental, and we have to determine which being possesses the largest psychic capacities as an indicator for pain sensitivity. The need to take account of the latter lies in the fact that the same basic interest of a fruitfly and of a chimpanzee for example not to be killed cannot be given equal moral significance. Common sense tells us that the latter has to be granted more moral significance. Before defining his position, Van de Veer introduces the notion 'serious' interest (which is somewhere between a basic and a peripheral interest). A serious interest does not have immediate survival value, but would better be fulfilled because otherwise survival becomes complicated. For a bird it is a serious interest to be able to fly. The possession of a pet may be a serious interest for a lonely child.¹¹ Two factor egalitarianism is then defined as:

"When there is an interspecies conflict of interests between two beings, A and B, it is morally permissible, *ceteris paribus*: 1. to sacrifice the interest of A to promote a like interest of B if A lacks significant psychological capacities possessed by B; 2. to sacrifice a basic interest of A to promote a serious interest of B if A substantially lacks significant psychological capacities possessed by B; 3. to sacrifice the peripheral interest to promote the more basic interest if the beings are similar with respect to psychological capacity (regardless of who possesses the interests)."¹²

Two factor egalitarianism is anti-speciesist: the reason why human

three).

¹¹ Van de Veer, 1986, p. 56-57.

¹² Van de Veer, 1986, p. 56.

interests are generally attributed more moral significance than nonhuman interests is not because human beings happen to be human beings, but because we normally have more complex psychological capacities. Van de Veer defends the importance of this '**weighting principle**' in two ways. Firstly, human beings are subject to forms of suffering that animals do not know. What is important is for instance the fact that only we remember past suffering and may be traumatised by it. Secondly, under normal circumstances, the prospects of satisfaction are qualitatively and quantitatively greater for human beings than for animals. However, human beings are not always favoured. Van de Veer provides the example of a child with Tay-Sachs disease whose death can be postponed by a kidney transplantation from a healthy chimpanzee. Since this would be at the expense of the life of the chimpanzee, the transplantation should not occur. Van de Veer justifies this as follows: Since the child will die quite soon and will suffer even with the new kidney, its interest to continue to live is less fundamental than that of the chimpanzee. Further, Van de Veer holds that the capacities of the child do not exceed the capacities of the chimpanzee.¹³

What remains unclear, however, is what is meant by 'prospects of satisfaction' and how Van de Veer assesses differences in psychological capacities.

But, more importantly, what is problematic in both Singer's and Van de Veer's account, is that they ascribe moral significance to 'capacities' or 'states of affairs' rather than to individuals.

¹³ Van de Veer, 1986, p. 56-62.

Both are exponents of a consequentialist ethic that values the overall consequences of actions. If it is the total experience which matters, then there is no reason why some organisms should not be killed, provided this is painless, and replaced by other organisms.¹⁴ This problem has been perceived by Singer, who consequentially supplemented his hedonistic utilitarianism, which measures value in terms of pleasure and pain, with what is known as **preference utilitarianism**. This amounted to the division of the morally considerable into two groups, the conscious and the self-conscious, where only the latter have the particularly significant desire or preference to keep on living. Singer then argued that it is worse to kill animals with such preferences than to kill animals who lack such preferences, which results in only the former being irreplaceable.¹⁵ But it may be objected that this does not solve the conflicts that might arise when a choice has to be made between two animals that both have the preferences valued by Singer. As in all consequentialist ethical systems, the problem is that the premoral value of the individual (for example the desire not to be killed) could always be sacrificed if it would lead to an increase in premoral values for the many.¹⁶ Another problem with the pathocentric account is that there are no grounds for regarding sentience as the exclusive criterion for moral consideration.

First of all, it could be argued that anaesthetised animals also

¹⁴ Birch, 1990, p. 65.

¹⁵ Singer, 1979.

¹⁶ For a similar critique, see Palmer, 1994, p. 74-77 and Lockwood, 1979.

deserve moral respect.

Secondly, it has been noted by several authors that there is a good reason for why organisms should feel pain, being the fact that a lot of organisms have evolved in such a way as to record positive signals to good conditions for survival and negative signals to bad conditions for survival. Thus, since such signals can carry vital information for an organism's survival, pain should not be avoided at all costs.¹⁷

In order to avoid some of the pitfalls of the pathocentric view, Tom Regan has developed what he calls a **rights view**.¹⁸ This is a non-consequentialist view as what is right and wrong is not decided by looking at the consequences of our actions. It is not important to ask whether the killing of an animal is painless or humane, but whether or not it respects the inherent value of an animal.¹⁹ Only animals who are a 'subject-of-a-life' have inherent value, because only these animals have sentience or the capacity to experience pain or pleasure, can remember, have beliefs, desires, emotions, preferences, a sense of the future and an identity over time, and can act intentionally. Only animals with these features have rights, which leads him to conclude that we have to treat them with the same respect as human right-bearers. In practice, this comes down to the view that only over one year old mammals have the features distinguished by Regan as morally

¹⁷ Goodpaster, 1983, p. 36; Callicott, 1983, p. 68.

¹⁸ Regan, 1983: In this work Regan retreats from his earlier position (developed in Regan, 1981) that all natural things have moral relevance, irrespective of whether or not they are alive.

¹⁹ Regan, 1983, p. 116-119.

relevant.²⁰

Although Regan's approach differs from pathocentrism in that sentience is no longer the only feature deciding moral consideration, the general mode in which Regan conceives of the moral relevance of animals is the same as the one employed by the pathocentrists presented above: if humans have moral relevance, then there is no reason why nonhuman animals should lack moral relevance, since they have the same rights-conferring features as humans, such as the capacity to feel pain, or desires, or preferences, or intentions. This may be called **moral extensionism**: some traits that are considered to be relevant for determining moral consideration in human animals are extended to include some nonhuman animals.

John Rodman has criticised these approaches for being anthropocentric, since animals are ascribed moral relevance according to the way in which they resemble those qualities that are most valued by humans, such as absence of pain or psychological complexity. Thus, these approaches would fail to see that animals are different from humans.²¹

Another criticism is raised against Regan's extension of rights to animals. Strong anthropocentrists reason that, in order for a being to have rights, a being must be able to understand what it means to have rights, and must have corresponding duties. In other words, animals would have to be moral agents in order to

²⁰ Regan, 1983, p. 263-264, 395; Regan, 1990, p. 75-79.

²¹ Rodman, 1977 and 1983.

have rights, and the rights theorist Joel Feinberg has argued that

"it is relatively easy to see why animals cannot have duties... . Animals cannot be 'reasoned with' ... they cannot enter into contractual agreements, or make promises ... they are therefore incapable of being moral subjects, of acting rightly or wrongly in the moral sense, of having, discharging, or breaching (sic) duties and obligations."²²

On this basis, the strong anthropocentrist Schlitt has argued that animals lack rights. Rights only exist if there is a reciprocity of duties or contracts, which presupposes the existence of a symmetrical community of autonomous agents:

*"Die angeborene Gleichheit existiert nur zwischen Personen, nicht aber zwischen Tieren und Menschen. Wo es aber keine angeborene Gleichheit der Tiere mit den Menschen gibt, da kann es auch keine Rechte der Tiere geben."*²³

Yet, contrary to Schlitt and other strong anthropocentrists, Regan and Feinberg do ascribe rights to some nonhuman animals. A decade before Regan, Feinberg had already written that all creatures with interests should have rights

"(1) because a right holder must be capable of being represented and it is impossible to represent a being that has no interests, and (2) because a right holder must be capable of being a beneficiary in his own person, and a being without interests is a being that is incapable of being harmed or benefited, having no good... of its own."²⁴

Feinberg was convinced that for a being to have interests at least

²² Marshall, 1993, p. 43: Reference is made to Feinberg, 1980, p. 162.

²³ Schlitt, 1992, p. 91; This account is problematic as Schlitt does not clarify what he means by "*angeborene Gleichheit*". In any case, it rather seems to be the case that human beings are endowed with very different and unequal genetic make-ups.

²⁴ Feinberg, 1974, p. 51; Of course we may question here if it is possible to attribute personhood to nonhuman animals. While I argue that personhood may be reserved for the specific form of self-consciousness that marks human beings, I grant that Feinberg's notion of 'interest' may be extended to all animals possessing the capacity to feel pain.

rudimentary cognitive equipment is presupposed: "Hence, there is no possibility of kind or cruel treatment of trees."²⁵ Like plants, people in a persistent vegetative state are incapable of suffering or experiencing joy: "Without awareness, expectation, belief, desire, aim, and purpose, a being can have no interests; without interests, he cannot be benefited; without the capacity to be a beneficiary, he can have no rights."²⁶

Paul Marshall has attacked the views of rights promoted by Feinberg and Regan.

First of all, in Marshall's view most humans who have argued for human rights have not done so because they believed in innate rights. Therefore, it is erroneous to think that the qualities possessed by individual nonhuman and human animals provide a basis on which to ascribe rights, since there are no inherent or innate rights. Marshall argues that rights are always relational and exist in a political context, and can therefore not be understood as features of individuals. Someone can only possess a right if other people know what it means to respect someone's right.

Secondly, by focusing on the rights of particular individuals, Regan and Feinberg would, according to Marshall, fail to take into consideration how we have to deal with (the majority of) nonhuman animals that are not granted such rights (for example: young mammals in Regan's view) and how we can justify the widespread view that we have to make special efforts to maintain rare

²⁵ Feinberg, 1974, p. 52.

²⁶ Feinberg, 1974, p. 61.

species.²⁷

Thirdly, it may thus be better not to argue for animal rights in the sense given above, but to concentrate on legal rights of or - better - for animals, which can be encoded and protected by law. Given the fact that, if animals' legal rights are violated, it is always up to humans to act as legal agents or guardians and take up the legal responsibility "it may be better to (...) simply make laws that directly specify the rights and duties of those who can actually be called to account and can act as legal agents".²⁸

Fourthly, Marshall argues for a loose and common sense of rights, which relates to our responsibility to deal justly with the world. Since a lot of ecological ethicists argue for rights in those situations where they think that we have a duty towards nonhuman nature, this loose sense could be maintained and is something that we should be committed to.²⁹

A fifth critique of rights views has been articulated well by Northcott, who argues that "rhetoric about rights tends to privilege competition over co-operation, individuals over collectivities and moral claims over moral relationships and responsibilities".³⁰ This is a point that is also made by various feminists, who stress care and relationality and argue that rights views betray a male stress on competition and individualism.³¹

²⁷ Marshall, 1993, p. 42-46.

²⁸ Marshall, 1993, p. 48.

²⁹ Marshall, 1993, p. 32, 49.

³⁰ Northcott, 1996, p. 102.

³¹ See for example Gilligan, 1981 and Plumwood, 1993.

I take Marshall's remarks on board, but think that the features that animals possess are important, albeit not to assess whether they have rights or not, but to assess how much relative ethical significance we can give to them. Although we lack the scope to go into a detailed discussion on human rights, if Marshall's first remark is taken seriously, I believe that the fifth critique can be avoided if we advocate what Marshall talks about in the fourth point mentioned: the use of rights in a loose sense. A rigid concept of 'rights' easily leads to 'mammalocentrism' (arguably even leaving out infant mammals), which has to be avoided. This is why I think it is important to stress that the concept of 'rights', when properly understood, does not originate from a strong 'I' having the capacities to claim rights or certain humanly determined features which are a condition for a being having rights, but from the **weak 'Other'** who encounters me in a **face-to-face** and stresses my duties in a categorical way.³² It is then appropriate to speak of the 'rights' of all those entities towards which we have direct duties. We will return to this issue in the final chapter.

We conclude that pathocentrists have argued rightly that it is meaningful to attribute moral significance to the fact that animals can feel pain. It is reasonable to argue that there exist varying degrees in the capacity to suffer among different species.

³² Birch and Cobb, 1984, p. 154: Birch and Cobb come also close to this position. They start from the commonsense assumption that even those people who are not capable of fulfilling duties by themselves still have rights (with corresponding duties for others). Therefore they suggest to speak of rights everywhere one can find duties, or: "If A has a duty towards B, it should follow that B has a corresponding right against A."

Therefore, it appears to be meaningful to attribute a higher moral significance to animals that have the strongest development of this capacity. It may be difficult to assess the capacity to suffer in other animals. Sometimes people who speak of animal suffering are accused of committing the **pathetic fallacy**. Yet it is remarkable that nobody doubts the capacity to suffer in human infants, although they lack the capacity to tell us so in the same way as nonhuman animals do. This is why I think that it is legitimate to induce the conclusion that most animals are capable of suffering from the following indications: the fact that the nervous system of many nonhuman animals is similar to ours; that some nonhuman animals produce, like us, higher hormonal levels of cortisol and adrenaline when stressed, and the fact that most animals try to escape from sources of suffering that we can identify. Therefore, the way in which pigs or chickens, for example, are treated by present day agro-industrial companies is morally reprehensible.

However, while pathocentrists consider sentience to be a necessary condition for ascribing moral relevance, for me it is only a **sufficient condition**. This is so because the capacity to feel pleasure and pain varies a lot between individuals and species, and pain may not always be negative, as we mentioned earlier on. Further, with Regan, I agree that, if we could rule out the capacity to suffer, for example by giving nonhuman animals drugs to kill them while they are unconscious, even then it would be

unjustified to regard them as mere means towards human ends.³³ Therefore pain sensitivity only indicates, and does not prove moral significance. But at the same time I do not subscribe to Regan's view that, rather than pain sensitivity, to be a 'subject-of-a-life' is the criterion as to what constitutes moral relevance, and many ecological ethicists have criticised Regan (among others) for being too restrictive by drawing attention mainly to mammals. Rodman, for example, has argued against moral extensionism towards animals that it leaves "the vast bulk of nature (...) in a condition of unredeemed thinghood", by which he presumably means that it is not considered to be morally considerable.³⁴

³³ A similar remark is made by Schlitt, but in a strong anthropocentric context: "*Der Grund, warum Menschen nicht gequält, gefoltert und misshandelt werden dürfen, liegt also nicht in der Fähigkeit des Menschen, sinnlichen Schmerz zu empfinden, sondern muss an anderer Stelle gesucht werden.*"

³⁴ Rodman, 1983, p. 87.

Chapter Three: Biocentrism

A biocentric ecological ethic asserts that humanity has direct duties to **all living organisms**. Attempts have been made to define a living organism, for example by Goodpaster who refers to Sayre's definition that a living system is defined by

"its persistent state of low entropy, sustained by metabolic processes for accumulating energy, and maintained in equilibrium with its environment by homeostatic feedback processes".¹

Although not all biocentric proposals depend upon the recognition that plants have interests, Goodpaster, for example, has argued that all living things have to be granted moral respect because they have interests. In reaction against Feinberg's view that "plants may need things in order to discharge their functions, but their functions are assigned by human interests, not their own", he writes that "living organisms like plants do have interests" as "there is no absurdity in imagining the representation of the needs of a tree for sun and water in the face of a proposal to cut it down".² In other words, the tree, who (in Rolston's words) "grows, reproduces, repairs its wounds, and resists death" is recognised as having a '*telos*' or **end of its own**, which is why Rodman has argued that this approach exceeds moral extensionism.³ It could be objected, however, that this is still a form of moral extensionism as what is **morally relevant**

¹ Goodpaster, 1983, p. 39: Reference is made to Sayre, 1976, p. 91; Goodpaster refers to the work of Lovelock to support his view that the whole ecosystem might approximate to the definition given, which would lead to an ecocentric position, which will be presented below.

² Goodpaster, 1983, p. 37-38; Feinberg, 1974, p. 54.

³ Rolston, 1993, p. 143; Rodman, 1983, p. 89.

is not the tree having a 'telos' (which it would also possess in a world without humans), but our valuing the tree's 'telos'. In other words: it is a specifically human decision to value teleological things more than things (if there are any such things) that are devoid of teleology (for example dead trees).

We will concentrate now on the most developed arguments presented by radical and weak biocentric ecological ethicists.

The radical version has been defended mainly by Albert Schweitzer and Paul Taylor.⁴ They hold that all species have equal value and therefore reject the idea that there would be a hierarchical ranking between the different species on earth. Schweitzer thinks that the 'will-to-live' marks all living beings and that what we should do is summed up in the words "reverence for life": "The good is what preserves and advances life; evil is what hinders or destroys it."⁵ Schweitzer thought - erroneously - that only human beings have the capacity to show compassion. Yet in his view this capacity was underdeveloped in many people since our culture has developed much more in material than in spiritual respects. The advance of science and technology has made real culture more difficult. However, Schweitzer is not a pessimist. Our material products have to be subjected to the service of the perfection of the individual and the community. Also, Schweitzer summons us to obey the mysterious appeal inside us to respect life. It

⁴ Although Schweitzer wrote very early in the twentieth century and is not part of the current debate between ecological ethicists, we shall present his views here because they have been a source of inspiration and debate for a wide range of contemporary ethicists.

⁵ Schweitzer, 1970, p. 119.

generates the permanent unease of a never and nowhere ending responsibility. The true value of our life becomes clear when we realise the truth of the words: 'Whoever loses his life shall find it'. Everybody has to decide by him- or herself how far to go in the unlimited commandment of love. He points out that we have to realise that we act subjectively and arbitrarily if we decide to sacrifice one life for another in a situation of conflict, since we do not know the significance of living beings.⁶

Taylor writes that something has intrinsic value or in his terminology 'inherent worth', if it possesses a spontaneous and **self-regulating centre** of activity or a **teleological centre** whereby it aims to realise its own good in its own particular way and displays some drive towards self-conservation. In his opinion, this can only be said of plants, animals, and human beings. Only they deserve moral consideration.⁷ Although he believes there is a hierarchy of life forms with the human being at the pinnacle of the evolutionary tree, he eschews ethical hierarchy and defends species egalitarianism, or - in his terminology - **species impartiality**: all species possess, in principle, equal moral significance. Three arguments are provided in support of this view. Firstly, human beings are members of the earthly community. Secondly, all living beings are connected in a relation of mutual dependence or interdependence. Thirdly, there is the fact that all organisms have a teleological ordered centre of life, as we

⁶ Schweitzer, 1970, p. 108-117, 120, 126; Schweitzer, s.d., p. 26, 51-52, 57, 64-65, 91, 107, 120, 176.

⁷ Taylor, 1986, p. 71-75.

mentioned earlier.⁸ Although all the species are of equal value, they do not deserve the same treatment because they all have their species-specific well-being or good.

Taylor then proposes **four basic rules** that should be taken into consideration when we deal with living nature: the **no-harm principle**, the rule of **non-interference**, the rule of **loyalty**, and the rule of **restitutive justice**. The first forbids destructive behaviour, the second states that it is not allowed to curtail the freedom of individual life and that we should leave nature as it is, the third that we must be loyal to the confidence animals have in us, and the fourth summons us to restore the injustice we have done to animals and plants. What Taylor stresses is the importance of the no-harm rule, a rule which I find difficult to distinguish from his second rule.

Taylor acknowledges that conflicts between nonhuman and human interests are possible and proposes **five priority rules** to deal with them, being:

1. The principle of **self-defense**. Human beings may defend themselves against harmful and dangerous organisms, but only the least harmful means for the organisms involved may be used.

2. The principle of **proportionality**. In case of conflict between non-fundamental human interests on the one hand and fundamental interests of animals and plants on the other hand, the preference has to be given to the latter.

3. The principle of the **lesser evil**. When fundamental interests of animals and plants conflict with non-fundamental interests of

⁸ Taylor, 1986, p. 154-155.

Taylor recognises differences in the teleological directedness of organisms, weak biocentrists would argue against him that this recognition has to result in differences in moral significance, as we will see below. Although respect for life is an important attitude, it does not suffice to bring us to good moral actions. Although the attitude of respect for life is commendable, it does not tell us what to do when different interests conflict with one another.

Secondly, Taylor's fifth criterion, the principle of restitutive justice, falls victim to one of the criticisms levelled against the pathocentric ethic: the issue of replaceability. The idea that we can compensate for damage caused may be open to the critique that can be addressed against any utilitarianist ethic which aims at maximising overall utility (in spite of the fact that Taylor presents his ethic as a non-utilitarian one): damage caused to a particular individual cannot be compensated for by benefiting other individuals. The inevitable loss of individual lives by the building of a road, for example, cannot be compensated for by the opening of nature reserves. Schweitzer's ethic is open to a similar criticism: his idea that it is completely arbitrary to promote the life of one individual over against the life of another individual makes our ethical responsibility for one particular other replaceable by the assumption of a responsibility towards **any** other. This is related to a further critique: if we are equally responsible for all living beings, our responsibility becomes impractical because it ignores our limitations. It may then be counterproductive, since being responsible for all life

comes down to being responsible for nothing in practice.¹⁰ Schweitzer's view that we have to show the same reverence to all forms of life and that, in consequence, it is always unjustified to kill living beings, must be objected to. Someone who, in a situation of conflict, decides to preserve the human life at the expense of a nonhuman animal or a vegetable life, may not be qualified as guilty. Moral guilt or sin does not apply to those circumstances wherein a human being does not have the freedom to avoid evil. Therefore, Schweitzer arrives at the opposite end of what he would like to achieve: if human beings are always guilty, whatever they do, then every reason to act morally fades away.¹¹ Humans should not be blamed for whatever they do as they have to destroy forms of life, whether they want it or not. Van den Brom has remarked that Schweitzer's failure to acknowledge this "looks like a secularized form of the doctrine of original sin and is morally ineffective in itself because inbuilt destinations are not open to decision. Morality without the possibility of decisions is a contradiction in terms".¹²

And thirdly, Taylor's principle of the lesser evil could be seen as an implicit recognition of the fact that species impartiality is untenable: how would it otherwise be possible to attribute more

¹⁰ Schlitt, 1992, p. 109.

¹¹ Schlitt, 1992, p. 111-114: Schlitt mentions the fact that the medieval theologians William of Auxerre and Alexander of Hales stressed already that one can no longer speak of sin where freedom ends. They considered a situation of *perplexus*, that is when somebody is faced with two mutually excluding moral claims, as impossible. God can not expect what is contradictory or impossible.

¹² Van den Brom, 1997, p. 307.

moral significance to non-fundamental human interests than to basic nonhuman interests?¹³

In the **weak form of biocentrism**, the focus is not on whether or not living beings deserve moral consideration, but on **how much** moral weight or **significance** they have.¹⁴ Lombardi and Soontiëns, for example, attribute more weight to human beings, but simultaneously emphasise that all living things have values, which can be graded. Lombardi argues, against Taylor, that the natural '*telos*' of a living being is a capacity, and that many living beings have additional capacities which increase their inherent worth. It is appropriate, then, to give more moral significance to human beings than to animals who do not have the capacities to reflect upon themselves.¹⁵

For influential process theologians such as John Boswell Cobb Jr. and Charles Birch, the notion of **capacity for richness of experience** is crucial. What is interesting is that they do not reserve the notion 'experience' for human beings, but apply it also to the **internal relations** that molecular, atomic, and subatomic events have with their environment. With the idea of '**internal relations**' they react against traditional substantialist

¹³ Schlitt, 1992, p. 100: A similar critique has been raised by Schlitt: Taylor would be self-contradictory as he would have to admit that human beings can only show respect for other living beings because they occupy a higher place in the natural hierarchy. However, we could question the existence of such a natural hierarchy, although human beings may be at the top because of their highly developed capacities to subject their behaviour to moral principles.

¹⁴ This has been stressed by Goodpaster, for example in Goodpaster, 1983, p. 32.

¹⁵ See Lombardi, 1983 and Soontiëns, 1993.

thinking which considered reality primarily as a whole of independent enduring substances, that are related only secondarily to other substances.

As we have seen in the previous part, substantialist thinking has been incorporated in the modern philosophy of scientific materialism. Within this paradigm, all relations were conceived as **external relations**. It was thought, for instance, that a stone lying on top of a desk, was related only externally to the desk. The constitution of the stone did not seem to be affected by the spatial relationship to the desk. The stone would be the same stone with the same properties if it were lying on the floor. Birch and Cobb, on the other hand, support the Whiteheadian view of reality. Unlike scientific materialism, reality is seen as a whole of relatively independent events that are interconnected to one another. Events have internal relations. An internal relation is a relation which is constitutive of the character and even the existence of something. There is no such thing as an event that does not have its very occurrence specified by spatio-temporal relations to all other events. The best definition of an internal or intrinsic relation is given by Arne Naess:

"An intrinsic relation between two things A and B is such that the relation belongs to the definitions or basic constitutions of A and B, so that without the relation, A and B are no longer the same things".¹⁶

Against this background, Birch and Cobb dismiss strong

¹⁶ Naess, 1989, p. 28; Naess, 1995e, p. 240-141: The difference between internal and external relations is illustrated by the different relations I have to 'my telephone number' and to 'my body': while I am not changed deeply by a change of telephone number, I would be very different if I had a different body; Chapter two in the last part will be an extended argument against substantialist thinking.

anthropocentrism, since

"... such a view simply does not fit with what we know about life and about ourselves as one form of life. We are subjects in a wider community of subjects as well as objects in a wider community of objects."¹⁷

Although Birch and Cobb are attributing intrinsic value to everything because of the presence of internal relations in everything, their main attention is directed towards animals. They argue that a new, higher level of experience arose with animal life. Then they consider plants. Since Birch and Cobb only give marginal attention towards the intrinsic value of inorganic entities, I have chosen to classify their approach under the heading of weak biocentrism.¹⁸ Birch and Cobb claim that **the capacity for richness of experience** grew as the **nervous system** developed. Therefore, animals - and primarily those who possess a highly developed nervous system - may not be treated as mere means:

"In proportion to their capacity for rich experience we should respect them and give consideration to making this experience possible. In short, they make a claim upon us, we have duties toward them."¹⁹

¹⁷ Birch and Cobb, 1984, p. 151.

¹⁸ Birch & Cobb, 1984, p. 152-153: This relates to their conviction that the internal relatedness of a cell to its environment reaches a higher level than the internal relatedness of, for example, a stone. While the former has an inherent unity, a stone is a mere aggregate so that its intrinsic value is only the sum of the intrinsic values of the molecular, atomic, and subatomic events that compose it. Plants are complex societies, not mere aggregates of cells.; It may seem implausible to speak of 'experience' in terms of 'having internal relations' and of 'non-conscious feeling'. In the final part it will become clear that Birch and Cobb developed their ideas under the influence of Whitehead, who introduced what will be defined there as 'panexperientialism' in reaction to our mechanistic culture which conceives of most of nature in terms of inert matter, wholly devoid of experience.

¹⁹ Birch & Cobb, 1984, p. 153.

The fact that they can suffer is very important. Birch and Cobb stress the need to take account of qualitative and quantitative differences in suffering: it is much worse to inflict suffering on creatures which have highly developed capacities to suffer than on those with more rudimentary capacities. This makes their position similar to Van de Veer's two factor egalitarianism. However, for Birch and Cobb the capacity to suffer is not regarded as a necessary condition for the right to life. They argue that the prohibition against killing people, for example, rests neither on the assumption that people can suffer nor on the recognition of a person having intrinsic value. Instead, the **intrinsic value** of one person has **to be compared** with the intrinsic value of other people, where the following **three factors** need to be taken into account.

Firstly, the intrinsic value of a human being is not only determined by past or present experiences (which are - by the way - not destroyed by killing) but also by possible future experiences. When a human being is killed, the occurrence of new experiences is prevented. Because of each person's uniqueness, this loss would be evil.

Secondly, human beings are aware of the fact that they have to die. While death is inevitable, it is easier to anticipate death at the end of a long life. Fear of dying at a young age is more serious and has to be reduced as much as possible. In other words: the intrinsic value of young people is higher than that of old people, which is of high ethical importance.

Thirdly, the killing of a person, especially when young, also carries with it suffering for other people.

Birch and Cobb move on to ask whether the prohibition against killing chickens could be justified in an analogous way by looking at how the same three factors would apply.

Firstly, it is clear that the killing of a chicken also prevents future experiences from occurring. They proceed:

"But it is not clear that the distinction between those prevented experiences and the experiences of another chicken is of much consequence. If the death of one chicken makes room for the raising of another, the values lost are largely replaced by the values gained. The quality and amount of chicken experience remain largely unchanged. In the human case, the future experiences that are cut off are unique and irreplaceable. That is because they derive from a unique individual with a unique history whose particular capacity to generate new experience is forever destroyed. In the chicken's case the element of uniqueness is trivial."²⁰

Secondly, the quality of experience of a chicken is not changed so dramatically by the anticipation of death, and the amount of suffering between an early and a late death does not differ that much.

Thirdly, the death of one chicken bears hardly, if any, negative consequences for other chickens.

The above shows that, for Birch and Cobb, there is a profound difference between killing a human being and killing a chicken. The picture changes when the animal in question is a chimpanzee rather than a chicken. While Birch and Cobb trivialise or deny the uniqueness of chickens, they argue that chimpanzees have a remarkable individuality resembling our own. Although the way they anticipate their death and the impact this has upon their quality of life may remain unknown to us, we know that the death of one

²⁰ Birch & Cobb, 1984, p. 159.

individual has strong repercussions on others, especially if they are living in the wild. Therefore, Birch and Cobb conclude: "Hence the considerations that lead to opposing the killing of human beings count also against the killing of some animals, especially some wild animals."²¹

An important consequence of Birch and Cobb's view is that the traditional dominant view of Jews, Christians, and Western humanists, that all human beings have equal intrinsic value, is given up. According to Birch and Cobb, this does not favour inhumanity, as we have the duty to promote richness of experience wherever possible.

However, I will focus briefly on how Birch and Cobb apply their criterion to the treatment of some humans to illustrate the **problematic aspects** of the 'capacity for richness of experience' as an ethical criterion, which will be discussed below.

According to Birch and Cobb, two groups of people deserve our special concern. The first one is small children, for their possible quality of experience in later life is largely determined by what happens in the early years. The second one is those people who have a low quality of life because of poor material conditions or minimal education. However, some traditional conceptions are altered, for example in such cases as abortion and euthanasia. Birch and Cobb repeat, in this context, the earlier mentioned idea that the value of the cell is mainly instrumental. Traditionally an exception was made for the fertilised human ovum: it was considered to have equal intrinsic value with a mature human

²¹ Birch & Cobb, 1984, p. 160.

being. Birch and Cobb disagree. In one article, Birch states: "From the perspective of process theology the fertilized ovum does not have the experience, nor can it have, of a mature human being."²² In another place, Birch and Cobb write:

"... the foetus does not have the same rights as a fully developed human being. To apply to the killing of a foetus the same language that is used for the killing of a human person is an obstacle to reasonable reflection on a difficult topic."²³

They move on to point out that abortion is often the lesser evil when pregnancy can no longer be avoided and when the rights of the parents and of the siblings are in conflict with the rights of the foetus. As for euthanasia: there is no reason to keep human bodies alive when there is no longer human experience.²⁴ This is so because where there is no longer any meaningful capacity for richness of experience, there is no intrinsic value. Birch writes: "With some people whose faculties disappear with advanced age, intrinsic value may be supposed to have reached its peak early in life."²⁵

Birch and Cobb are prepared to give human beings a privileged position in many, though not in all cases. When the 'capacity for richness of experience' of a particular human being is smaller than the 'capacity for richness of experience' of a particular nonhuman being, then they conclude that the intrinsic value of the latter is the highest and therefore its moral weight or

²² Birch, 1990, p. 66.

²³ Birch and Cobb, 1984, p. 167.

²⁴ Birch & Cobb, 1984, p. 167-168.

²⁵ Birch, 1990, p. 66-67.

significance higher.²⁶

We will address now some of the **objections** that can be raised against weak biocentrism.

Firstly, it may be too restrictive to identify what is morally relevant with teleological capacities or capacities for richness of experience. If we are only interested in these qualities because they resemble the goal-directed behaviour of humans, then we fail to recognise nature for its being different or other than human, which may - as ethicists such as Llewelyn have argued - also provide a basis for respect.²⁷ We will return to this point in chapter five.

Secondly, a related point is that these approaches are, like all the preceding ones, individualistic and fail to recognise the difference between domestic animals and animals living in the wild, or between species that are or are not endangered. In other words, the moral relevance of ecosystems, which will be argued for below, is ignored. This critique was developed most emphatically by Callicott, whose views will be discussed in chapter four (on ecocentrism).²⁸

²⁶ To the extent that Birch and Cobb argue for a continuity between living and non-living beings and for the recognition of the intrinsic value of all, so even non-living entities, we could also classify their approach under 'ecocentrism', holding - as we shall see further on - that human beings have direct duties towards everything. Since they present their own approach as biocentric and focus primarily on the value of living beings (and do not support radical egalitarianism), I prefer to deal with their approach here.

²⁷ This is a point that has been stressed especially by people who are influenced by Levinas, such as for example by Llewelyn, 1991. See for a discussion also Deckers, 1993b.

²⁸ See for example Callicott, 1983, p. 62-63.

Thirdly, Birch and Cobb not only fail to avoid the replaceability problem mentioned before by ascribing more moral relevance to the overall capacity for richness of experience of a group of (replaceable?) chickens, but also contradict themselves with regard to the relevance of this criterion. This is shown by the fact that they argue, on the one hand, for ascribing a special concern or a relatively greater moral significance to the enhancing of the relatively small richness of experience of small children and those having a low quality of life, while on the other hand ascribing a relatively small moral significance to other groups of people who are purported to have equally relatively small richness of experience: foetuses, old people, and people whose sentience has been reduced! In other words: small richness of experience is sometimes considered to justify lower moral significance, and at other times considered to justify greater moral significance, which is clearly contradictory. This problem cannot be overcome by pointing out that it is the potentiality for richness of experience which is important: while this would explain why old people have less moral significance, it would not explain why fertilised eggs - which probably have the greatest potentiality - have less moral significance! We can, therefore, conclude that Birch and Cobb may have recognised implicitly that it cannot be merely the capacity for richness of experience which determines ethical significance. Yet they have failed to point out an alternative.

And finally, Birch and Cobb contradict themselves where they argue that the right of species to survival is more fundamental than

the right of individual members to survival.²⁹ In order to justify this position, other criteria than merely the 'capacity for richness of experience' have to come into play. An appeal to the relative 'capacity for richness of experience' cannot justify the saving of an endangered plant species by sacrificing the life of some deer.

²⁹ Birch, 1990, p. 60; Birch & Cobb, 1984, p. 169-173.

Chapter Four: Ecocentrism. A Focus on the Deep Ecology Movement

This fourth option is also known as the cosmocentric or holistic ethic. Humanity is considered to have direct duties to everything that exists, and everything has, in principle, equal value.

This strand is manifested mainly by the adherents of the **deep ecology movement**, a movement which was founded by the Norwegian philosopher Arne Naess, who was born in Oslo in 1912. Because of his immense significance for and world-wide influence on people reflecting on ecological issues, and his importance for our own perspective, we will highlight his position quite extensively. The fairly elaborate study of the deep ecology movement serves also the purpose of evaluating common widespread **misrepresentations** of this movement.

The following extract provides an example. It is the result of a poll of environmental attitudes conducted in the late 1970's in the United States:

"... deep ecology is a far more radical position than that taken by most supporters of alternative technology involving as it does the rejection of economic growth and of the assumptions underlying western science, the subordination of human society to natural processes, and the doctrine that humans share a profound identity with non-human nature."¹

In another work, deep ecology is said to be converging on the New Age position. This position is defined as having the following tenets: 1) All is one, with subatomic physics as its justification. All higher categories of organisation are ignored.

¹ Naess, 1989, p. 17: The quote is taken from Mitchell, 1980, p. 348-349.

2) All is God. 3) Human beings are God. 4) Consciousness change (*nirvana, satori, self-realisation, God-realisation, or cosmic consciousness*) is sought. 4) All religions are one and they are dissolved into a cosmic unity, 5) Cosmic evolutionary optimism.² A third critic is Krauthammer. He calls deep ecologists immature and regrets that they are engaging "in earth worship to the point of idolatry" rather than adopting a "sane" environmentalism that is "entirely anthropocentric" and holding "unashamedly" the view that "*nature is here to serve man*".³

In this section it will become clear that all these characterisations of deep ecology are erroneous! We will focus primarily on Naess' book *Ecology, Community and Lifestyle. Outline of an Ecosophy* (1989). This book is a revision by Naess and David Rothenberg of Naess' earlier work *Okologi, samfunn, og livsstil*, which was published in Norwegian in 1976.

4.1. The Starting Point

In 1973 Naess published a six page long article *The Shallow and the Deep, Long-Range Ecology Movement* in the philosophical journal *Inquiry* that was founded by himself in 1958.⁴ In spite of its length and vague character, this article has been the bedrock for

² Atkinson, 1994, p. 131-133.

³ Zimmerman, 1994, p. 32: Reference is made to Krauthammer, 1991, p. 56.

⁴ Naess, 1973, p. 95-100.

the deep ecology movement.⁵ It is not easy to derive from this article what this movement stands for. Perhaps the easiest way to do this is to contrast it with the shallow ecology movement. Naess spends as little as two lines on defining this movement: it fights against pollution and exhaustion of raw material to the advantage of the health and welfare of people in developed countries.⁶ This is contrasted with a less influential deep ecology movement, which is presented in **seven points**. Naess does not refer to one single author or document in his description of the deep ecology movement.

Firstly, deep ecology sticks to a relational and holistic

⁵ Naess, 1989, p. 210: However, Naess has also written that the movement started, roughly, with the publication of Rachel Carson's *Silent Spring*, which attacked the use of DDT and other pesticides and focused people's attention on pollution, overpopulation, and the loss of wildlife habitat. See Carson, 1962.

⁶ Naess, 1973, p. 95; Naess, 1989, p. 33: Here, it reads: "The limitation of the shallow movement is not due to a weak or unethical philosophy, but due to a lack of explicit concern with ultimate aims, goals, and norms."; Naess, 1989, p. 96: Naess states here that one of the pillars of the shallow ecological movement is the widespread assumption that overcoming the environmental crisis is purely and solely a technical problem; Naess, 1993b, p. 185: Naess also regrets that the shallow ecology movement is only concerned about overpopulation in developing countries, and not about overpopulation in industrial countries, although the latter countries may destroy one hundred times more per capita; A more explicit comparison between shallow and deep ecology is presented in Naess, 1993a, p. 200-203. Here, the shallow ecology movement is presented as the movement that: spreads out pollution more evenly, exports the heaviest polluting industries to developing countries, considers nonhuman nature primarily as a resource for human use, sees overpopulation primarily as an issue for developing countries, considers the destruction of wild habitats as an inevitable evil, opts for a universal adoption of Western industrialisation and technology, conserves nature only as a resource for future generations of human beings, disregards larger units and comprehensive gestalts by cutting nature into fragments, and favours the "hard sciences" as we need "experts" to "manage the planet". We could conclude that the shallow ecology movement corresponds to what we defined as strong anthropocentrism in chapter one.

ontology. The idea that human beings are surrounded by their environment is given up. Human organisms are knots in a biospherical web. The identity of a thing is determined by its relatedness to other things. This is called the total-field image or model. We will expand on this in our section on Gestalt theory. **Secondly**, strong anthropocentrism is dismissed. All life forms have, in principle, the same right to live and to thrive. This is labelled as 'biospherical egalitarianism' or 'biocentric egalitarianism'. What is important is that biospherical egalitarianism is defended only 'in principle': "The 'in principle' clause is inserted because any realistic praxis necessitates some killing, exploitation, and suppression".⁷ However, I prefer, following Warwick Fox, to call this position ecocentric rather than biocentric.⁸ Although the notion 'life' is used in a very wide or so-called 'non-technical' sense and applied to rivers, landscapes, and so on (for instance, in the slogan: "Let the river live!") "the motivation of deep ecologists depends more upon a profound sense that the Earth or ecosphere is *home* than it does upon a sense that the Earth or ecosphere is

⁷ Naess, 1973, p. 95.

⁸ Naess, 1973, p. 95-96; Fox, 1990, p. 117; Naess, 1989, p. 170-171: Here, Naess clarifies what he does not imply by 'biospherical egalitarianism': "The principle of biospheric egalitarianism defined in terms of equal right, has sometimes been misunderstood as meaning that human needs should never have priority over non-human needs. But this is never intended. In practice, we have for instance greater obligation to that which is nearer to us. This implies duties which sometimes involve killing or injuring non-humans." He proceeds by suggesting that this could be the case when there is a conflict between vital needs of human and nonhuman beings. An important guideline is: "You shall not inflict unnecessary suffering upon other living beings!"

necessarily alive".⁹ The principle of **biospherical egalitarianism**, the conviction that all life forms are, in principle, of equal value, has its roots in Naess' early childhood experiences. As a child he used to play in the Norwegian fjords, and became fascinated by the ecosystem of shallow coastal waters, by the harmonious life community of the richness and diversity of small life forms, particularly the tiny ones.¹⁰ There was no need for him to conceive of some forms as higher or better than others.

Thirdly, the diversity of natural and cultural forms of life and the symbiosis and cooperation between organisms have to be given a high value: "the so-called struggle of life, and survival of the fittest, should be interpreted in the sense of ability to coexist and cooperate in complex relationships, rather than ability to kill, exploit, and suppress."¹¹

Fourthly, since the principle of 'diversity' does not justify differences that are brought about by oppression and exploitation, deep ecologists oppose class hierarchies.

Fifthly, they fight against pollution and exhaustion of raw material.

Sixthly, there is a difference between complexity and complication. While the former is efficient, integrated, multi-faceted, and enriching, the latter is chaotic, confusing, inefficient, and superfluous. Natural systems such as organisms and ecosystems are examples of complexity. Our knowledge of the complexity of natural

⁹ Fox, 1989, p. 8.

¹⁰ Naess, 1993b, p. 182.

¹¹ Naess, 1973, p. 96.

systems is partial and therefore our impact upon them is largely unknown. We become more and more dependent on the complicatedness of our technological society with its bureaucratic organisations. Our attention is carried away by it. Yet we have to strive for complex but integrated ways of life, wherein the whole person can develop and combinations of industrial and agricultural activities, and of intellectual and manual work, are sought. We have to prefer soft technology, be aware of our lack of knowledge, and value continuity in both our natural and cultural history. **Seventhly**, local autonomy and decentralisation are favoured. The growing influences from outside one's own region increase ecological and economic vulnerability.

At the end of his article, Naess makes three **clarifications**. **Firstly**, he stresses that there can be no scientific basis for the normative attitudes of the deep ecological movement. There is no logically necessary derivation from scientific ecology. However, the ideas of deep ecologists have been inspired by the work of ecologists.

Secondly, and closely related to the former, the central opinions of deep ecologists are fundamentally normative.

This carries along a **third** clarification: one should speak of an eco(philo)sophical rather than an ecological movement. While ecology is a limited science, making use of scientific methods, a philosophy is a kind of encompassing wisdom, a worldview, with norms, rules, postulates, and hypotheses about reality. An ecosophy, then, is a worldview that has been inspired by ecology. The concrete content of an ecosophy shows many variations, both

with regard to for example hypotheses about the scale of pollution or about the carrying-capacity of the environment and with regard to the normative propositions. So there are several ecosophies and Naess holds the seven points characterising the deep ecology movement to be a framework for ecosophic systems. The notion 'deep' in 'deep ecology movement' relates primarily to this philosophical attempt to face the crisis as it is and to go to the roots of the problem. It also relates to the ecocentric approach, as opposed to other more shallow approaches.¹² Naess has also said that the essence of deep ecology is to ask deeper questions (in terms of why and how we do certain things), while the shallow ecology movement does not do so. This has been subject to debate, as we shall see further on.¹³ The movement is also defined as the one showing a perennial attempt to focus on long-range priorities, values, and norms.¹⁴

4.2. The Platform of the Deep Ecology Movement

The philosopher George Sessions and the sociologist Bill Devall discovered Naess' writings in the late seventies and started to develop and spread his ideas from California. Naess' original seven points were substituted by what is called a **platform** for the deep ecology movement. It was proposed by Naess and Sessions in 1984. The platform is meant to be a kind of resting point for

¹² Naess, 1973, p. 96-100; Naess, 1989, p. 12; Fox, 1990, p. 92-94.

¹³ Naess, 1993b, p. 183.

¹⁴ Naess, 1989, p. 73.

agreement, since this is necessary if people are to act together. It is not supposed to wipe out all individual differences in perspectives:

1. The flourishing of human and non-human life on Earth has intrinsic value. The value of non-human life forms is independent of the usefulness these may have for narrow human purposes.
2. Richness and diversity of life forms are values in themselves and contribute to the flourishing of human and non-human life on Earth.
3. Humans have no right to reduce this richness and diversity except to satisfy vital needs.
4. Present human interference with the non-human world is excessive, and the situation is rapidly worsening.
5. The flourishing of human life and cultures is compatible with a substantial decrease of the human population. The flourishing of non-human life requires such a decrease.
6. Significant change of life conditions for the better requires change in policies. These affect basic economic, technological, and ideological structures.
7. The ideological change is mainly that of appreciating life quality (dwelling in situations of intrinsic value) rather than adhering to a high standard of living. There will be profound awareness of the difference between big and great.
8. Those who subscribe to the foregoing points have an obligation, directly or indirectly to participate in the attempt to implement the necessary changes."¹⁵

Some remarks have to be made.

Relating to 1: As remarked earlier, the notion 'life' is used in a 'non-technical' way to include things that are normally classified as non-living. The wider usage that is so common in many cultures is expressed in slogans such as: 'let the river live'. Naess reacts to the widespread assumption that everything has to be valuable for human beings in order to be valuable. In his view, this leads easily to solipsistic egotism: 'good or

¹⁵ Naess, 1989, p. 29; Fox, 1990, p. 114-115.

valuable is what is good or valuable *for me*'.¹⁶ Arguing for the intrinsic value of nonhuman nature, Naess proceeds:

"Let us say that we are planning a trip together. Some places will be visited because it is to A's advantage, while we others see *no value in it*, other places may be chosen by B, etc. At the same time, we are, as friends, aware that *each* of us thinks it is valuable that we visit a place *someone* thinks valuable to visit. This brings in evaluations of relevance on the meta-plane. These propositions suggest that to ascribe value to animals, plants, landscapes, and wilderness areas independently of their relation to human utility or benefit is a philosophically legitimate procedure. To relate all value to mankind is a form of anthropocentrism which is not philosophically tenable."¹⁷

This shows that Naess does not base the claim that things have intrinsic value on the assumption that all natural entities have experience or subjective interiority. Naess is not clear about whether or not he supports this assumption. In any case, he uses the word 'intrinsic value' also to express the fact that things may not have instrumental value for us, but could still have instrumental value for other things within their ecosystem. The notion 'intrinsic value' is then only used to express that things have no instrumental value for us.

Relating to 2: It is presupposed that life is an evolutionary process and has developed with increasing diversity and richness. The notion 'richness' stresses that not only the number of populations, but also the number of individuals within species has to be safeguarded. Monoculture in farming and homogeneity in culture have to be opposed.

¹⁶ Naess, 1989, p. 29, 176-177; Naess, 1995f, p. 224.

¹⁷ Naess, 1989, p. 177.

Relating to 3: Naess remarks that this formulation may be too strong, but it serves as a reaction against the frequent usage of claims for human rights that result in unreasonable damage to the environment.¹⁸ In a later work, Naess explains that his use of the word 'right' refers to an everyday sense, as in 'you have no right to eat your sister's food', rather than meaning "you ought not to eat ...".¹⁹ The notion 'vital needs' is deliberately left vague to allow for different climatological and socio-cultural interpretations.

Relating to 4: Reports such as for example the annual report of the World Watch Institute in Washington, D.C. (edited by Lester Brown) make it clear that for example speciation is severely endangered due to lack of space: wilderness areas and game reserves are not large enough. It was the reading of one of these reports that also shocked me into recognition of the magnitude of our crisis.

Relating to 5: A dramatic decrease of consumption levels will lead towards a decrease of stress on the environment, but will probably not be sufficient to allow nonhuman life to flourish. That is why the population issue has to be given a very high priority. Naess remarks that we cannot remain complacent as the seriousness of the situation has to be perceived. The longer we wait to change, the more drastic will be the measures needed. In spite of the urgency, Naess remains optimistic and prefers not to use the word

¹⁸ Naess, 1989, p. 29-30.

¹⁹ Naess, 1995b, p. 217.

'overpopulation'.²⁰

Relating to 6: Most present Western ideologies value consumption and waste. Things are valued because they are scarce and because they have a commodity or market value. Other values, such as ecological values, are downplayed.

Relating to 7: Although 'quality of life' is vague, this may not be problematic: it is precisely the nature of the notion which is supposed to resist a more precise quantification.

Relating to 8: The nature of these obligations does not have to be restrictive: there is plenty of room for personal taste in the co-operative attempt to act.²¹

This allows us to summarise the basic idea and the resulting fundamental objective of the deep ecology movement as follows: the movement recognises the inherent value of all life forms and therefore the inherent value of the richness and diversity of life forms. The movement commits to radical changes in all aspects of individual and collective human existence to harmonise human life with this recognition.

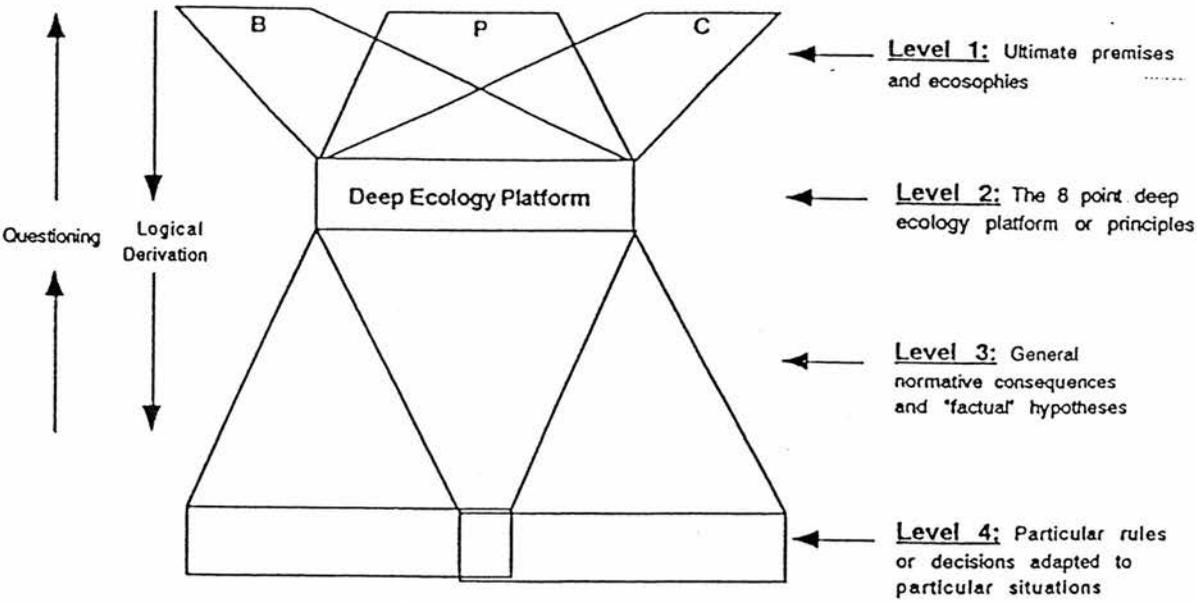
While both Naess' original article and the platform try to point out the fundamental ideas and objectives of the deep ecology movement, it is striking that only the fundamental normative principles as spelled out in points 1 and 2 remind us of Naess'

²⁰ Naess, 1989, p. 29-31; Naess, 1996.

²¹ Naess, 1989, p. 31-32; Naess, 1993a, p. 196-199.

original article. The platform is shorter, more general, and less philosophically articulated than Naess' seven points. The difference in the two documents can be explained by Naess' apron diagram.²²

APRON DIAGRAM



Examples of kinds of fundamental premises:
 B = Buddhist
 C = Christian
 P = Philosophical (e.g. Spinozist or Whiteheadian)

The apron consists out of four levels. The first, most fundamental level, contains several personal worldviews, or rather the foundations of these worldviews with fundamental ideas and convictions about reality and highest values and final objectives. We all have these ultimate premises.

²² Naess, 1993a, p. 206.

From this first level the other levels are loosely derived. The platform is situated at level two. It contains the common ground of all the personal worldviews. The 1973 article has to be situated between level one and two: it formulates the common framework for those ecophilosophic systems that are inspired by ecology. The platform, on the other hand, wants to acknowledge explicitly that scientific ecology cannot be the only source of inspiration for the various personal world-views: therefore, it takes account of the immense diversity of religious, philosophical, and scientific motivations and inspirations that are represented by the different adherents of the deep ecology movement.

The third and fourth level refer to the application of the more fundamental levels to more general problems (third level) and finally to very concrete and immediate choices (fourth level). Here, divergences will appear again. Since it is hard to find solutions from the vague propositions of the platform, level one is likely to lead to different final outcomes to practical problems. Naess believes the character of the relatedness between the different levels in the apron to be one of logical derivation: from fundamental normative principles and hypotheses about reality, concrete options are finally derived. The volume of the different levels in the apron diagram accounts for the length of the logical derivation between the levels. The distance between levels one and two on the one hand and level four on the other hand is very long. Most of the time, the logical connectedness remains unclear and the coherence between our principles and our concrete options is lost. There is also a bottom-up direction,

from level four to level one: concrete problems may question fundamental convictions and ultimately alter them.²³

4.3. Ecosophy T

4.3.1. What Is Ecosophy T?

Ecophilosophy or ecosophy is the discipline which tries to clarify the place of our species within nature by using basic concepts from the science of ecology, such as complexity, diversity, and symbiosis, thus establishing a total view. Ecosophy T is Naess' personal version of ecophilosophy. Ecology is seen here as the interdisciplinary scientific study of the living conditions of organisms in interaction with each other and with their surroundings, organic as well as inorganic.²⁴

To choose and to act in a more conscious, more rational, and more responsible way, a systematic articulation of our total view is required. Our total views are highly individual. Naess remarks that his ecosophy T is not supposed to be imitated by us, but rather to be taken as a suggestion for the clarification of our own experience. In spite of the highly individual character of these total views, Naess believes that most people, if they started to question their views deeply enough, would arrive at the conclusion that something needs to be done about the way we are dealing with our planet.²⁵ He goes even further: "It is my

²³ Naess, 1993a, p. 205-208.

²⁴ Naess, 1989, p. 3, 36.

²⁵ Naess, 1989, p. 19, 163, 173; Naess, 1993b, p. 184.

hypothesis that any systematic contemporary philosophy will, if it takes a stand on the ecological crisis, support the Deep Ecology movement."²⁶

We can make a simplified model of part of the complex structure of our total view. Naess articulates a small part of his worldview in his **ecosophy T** (the letter T standing for *Tvergastein* = 'cross the stones', the name of the cabin he built in 1937 just under the summit of the mountain *Hallingskarvet*, half way between Oslo and Bergen, one of the places where Naess lives).²⁷ It has a pyramidal or tree-like character of logical derivation - 'logical' being used in a broad sense here: from a limited amount of general and abstract fundamental norms and hypotheses step by step an unlimited amount of specific norms and hypotheses and finally concrete applications are derived.²⁸ Norms are instructions or

²⁶ Naess, 1995d, p. 205.

²⁷ Naess, 1989, p. 36-37.

²⁸ Naess, 1989, p. 77: Naess remarks that individuals and governments often lack logical connection between basic norms and concrete decisions. Thus, the intermediary level is disorganised or even non-existent; Naess, 1995d, p. 212, footnote 2: Naess states that the rules of inference between premises and conclusions are rough. I agree with his view that "requirements of logical validity lead to vast unnecessary complications for people other than professional logicians" and understand this to be an attempt: a/ to bring philosophy back from the academic world to the everyday world, where people without qualification ultimately have to decide how to deal with their ecological situation, and b/ to recognise that we are producing logical statements all the time without necessarily having the awareness of all the steps within the derivation. This is in agreement with Whitehead's and Griffin's observation - which will be spelled out in the final part - that all people have basic intuitions or hard-core commonsense notions that are indispensable, but hard to prove.

imperatives to accomplish certain goals, to act in a certain way.²⁹ Hypotheses can, in principle, be empirically tested. Their validity depends on the validity of non-normative assumptions, theories, postulates, and observations. The name 'hypotheses' does not suggest so much uncertainty, but rather a certain revisability or tentativeness. They refer to a view of how the world is organised. From a deep ecological point of view they represent beliefs with regard to the interdependency relations within the biosphere.³⁰ The entire system has a strong normative character since norms are at the summit of the pyramid. The norm or the norms at the summit express one's highest value or values and one's ultimate meaning in life. Naess has always stressed that such models systematising part of one's world view have a **provisional** or **tentative** character. Lower level norms may, if changed, modify higher level norms or hypotheses. But usually lower level norms change due to a different interpretation of a higher norm or due to the formulation of a new hypothesis.³¹ One has to be careful in order to avoid any kind of absolutism or dogmatism. Such models have nothing but the instrumental value of connecting concrete choices with fundamental principles. Naess stresses that his particular chain of reasoning is highly subjective. This is because of his positive attitude towards

²⁹ Naess, 1989, p. 42: The fact that Naess puts an exclamation mark behind his 'norms' has been criticised as dogmatic. In reaction, Naess points out that they are just tentative guidelines and that for his ecosophy, unlike academic philosophy, decisions and actions count more than generalities. The vagueness of the norms allows for a multitude of interpretations. As in natural science, vague notions have a high heuristic value.

³⁰ Naess, 1989, p. 43, 74; Fox, p. 95-96.

³¹ Naess, 1989, p. 196-197.

'tolerance of ambiguity'. He warns against the dangers of seeing saneness as correctness or to be '*comme il faut*'.³²

It is now appropriate to introduce the famous central norms and hypotheses of Naess' ecosophy:

*norm 1: Self-realisation!

-hypothesis 1: The higher the Self-realisation attained by anyone, the broader and deeper the identification with others.

-hypothesis 2: The higher the level of Self-realisation attained by anyone, the more its further increase depends upon the Self-realisation of others.

-hypothesis 3: Complete Self-realisation of anyone depends on that of all.

*norm 2: Self-realisation for all living beings!

-hypothesis 4: Diversity of life increases Self-realisation potentials.

*norm 3: Diversity of life!

-hypothesis 5: Complexity of life increases Self-realisation potentials.

*norm 4: Complexity!

-hypothesis 6: Life resources of the Earth are limited.

-hypothesis 7: Symbiosis maximises Self-realisation potentials under conditions of limited resources.

*norm 5: Symbiosis!³³

Together with the hypotheses H1, H2, and H3, the norm 'Self-realisation' represents the **most fundamental** level of the system: it has a rather metaphysical character. H2, H3, and N2 are assumed to be logically derivable from N1 and H1. For a rigidly formal derivation, however, a few more premises would be required. According to Naess, these would be of greater interest to the logician than to the ecosopher. In the critical evaluation of the

³² Naess, 1995d, p. 206: Naess also refers to a working hypothesis of research being done in the 1930's and '40's which suggests that there was a high correlation of intolerance of ambiguity with acceptance of fascist ideas. In my opinion, it makes sense to see this as an illustration of the widespread attitude of death-denial and death-anxiety which characterises Western culture: the ambiguity of life is projected on to the strong *Führer* who provides security by denying one side of our existential situation. The people then identify with the easy solution portrayed by the *Führer*.

³³ Naess, 1989, p. 196-209; Fox, 1990, p. 103-104.

deep ecology movement that we will provide below, we will see, however, that Naess' so-called 'logical derivation' is not logical at all!

The **second part**, consisting of H4, N3, H5, N4, H6, H7, and N5, draws heavily on the science of ecology. The central underlying notion in this part is 'self-realisation potential'. It functions as the conceptual link between self-realisation and the positive valuation of diversity, complexity, and symbiosis. The variety of life forms realises the self-realisation potentials, which is described as analogous to negative entropy (by which Naess presumably means local decrease of entropy, as the notion 'negative entropy' does not make sense). Diversity is different from mere plurality, since qualitative differences matter. The norm 'symbiosis' qualifies and knits the bond between complexity and diversity; it highlights the finiteness of our planet and the existence of relationships of interdependence in which all partners in a relationship are enriched. Applied to humans, symbiosis is the opposite of class discrimination.

The **third and fourth part** - not presented here - consist of social and political principles. And finally, from the norm 'self-realisation' and the hypotheses H8 to H15 norms for local economy and autonomy, and against oppression, exploitation, and class divisions are derived.

At the basis of 'self-realisation' is the intuition and experience of encompassing connectedness of all there is. It is a deep identification with everything, a feeling of unity and solidarity that extends beyond the human community. If we want to define

'self-realisation' exactly, Naess holds that we might lose the mythic function of the notion, by which he seems to understand something which appeals to our imagination. According to Naess, mythic and religious expressions are still required today since - in his view - science and philosophy tend to disregard important sources of meaningfulness and general appeal. Another sentence with mythic functions is for example 'All living creatures are fundamentally one'. However, Naess also holds that such sentences with mythic function can be made more precise by deriving testable hypotheses or norms from them.³⁴ For the development of the notions contained in his ecosophy T, Melle has observed rightly that Naess uses four basic sources: the philosophy of Gandhi, the philosophy of Spinoza, Gestalt theory, and ecology.³⁵

4.3.2. Four Important Sources of Inspiration for Ecosophy T

* Gandhi

In Gandhi's ethical metaphysics Naess discovers the notion of the universal Self or *atman*.³⁶ Naess is hardly interested in the theological significance of the *atman*, but stresses the ethical

³⁴ Naess, 1989, p. 165; The appeal that Naess often makes to intuition, feeling, or mythic expression, has sometimes been criticised as irrational. Naess defends his position in Naess, 1993b, p. 189: "As Aristotle said, it shows a lack of education to try to prove everything, because you have to have a starting point. You can't prove the methodology of science, you can't prove logic, because logic presupposes fundamental premises."

³⁵ Melle, 1997, p. 199.

³⁶ Naess, 1995j, p. 234: Naess reacts against the way in which the term *atman* is usually translated: 'mind' or 'spirit'. It is better to translate by the more holistic notion of 'self' where "if your self (in the wide sense) embraces another being, you need no moral exhortation to show care".

aspect: the idea that all living beings are intimately connected. But the unity of everything is hidden by egoism. The individual self has an egoistic and a non-egoistic component. The more the egoistic part within us disappears, the more that part grows that identifies with God, with humanity, and with everything that lives and grows. **Non-egoistic action** is intended to benefit the poor and the oppressed in the first place. But Gandhi was also concerned about the self-realisation of nonhuman beings. He believed so deeply in the coexistence of all lifeforms that he allowed snakes, spiders, and scorpions to move unhindered in his bedroom.³⁷ Gandhi was aware that for this to be achieved "no moralizing is needed, just as we don't need morals to make us breathe. Rather, we need to cultivate our insight. (...) To identify self-realization with ego-trips manifests a vast underestimation of the human self."³⁸

It was Gandhi's belief in the essential oneness of all life that allowed him to lay so much stress on **non-violent action**, which is also supported by Naess. Non-violent direct action is needed, but Naess stresses the value of daily and small actions of a less spectacular kind. Naess is fascinated by Gandhi's capacity to maximise contact with his opponents, which translates for the deep ecology movement into the need for campaigns and education.³⁹

³⁷ Naess, 1995j, p. 233-234; See also Naess, 1974, p. 35; Fox, 1990, p. 104-113.

³⁸ Naess, 1995j, p. 233-234.

³⁹ Naess, 1989, p. 147-148; Zimmerman, 1994, p. 146: Zimmerman has pointed out that Gandhi and Naess are more influenced by Sankara's view that dualisms disappear when one realises that everything is part of the *atman* or Self than by the Mahayana Buddhist view that this must lead to the absorption of the self in emptiness or not-self.

The fact that Gandhi disliked centralisation and urbanisation in the name of peoples' self-realisation is another thing to which Naess is attracted.⁴⁰

*** Spinoza**

Naess argues that Spinoza's ideas connected with the concept of 'self-preservation' have nothing to do with ego-trips, but with sharing joys and sorrows with others and so relate to the progressive development of a self encompassing all human beings. The deep ecology movement, according to Naess, simply extends this to all life forms and to nature itself. The active, striving nature of this process explains why Naess prefers the term 'self-realisation' or 'self-unfolding' to 'self-preservation'. This is also contained in Spinoza's usage of '*perseverare in suo esse*': it stresses the active and evolutionary process of the development of life.⁴¹ According to Naess, Spinoza's conception of nature is similar to many ecologists' view, especially those doing fieldwork. It is not the passive, dead nature of mechanistic science, but nature as creative and alive. The *perseverare in suo esse* and *conatus essendi* have to be interpreted dynamically: the attempt to achieve an always higher level of self-determination, activity, freedom, reason, and power. This is not mere survival: "Survival is only a necessary condition, not a sufficient condition of self-realisation".⁴²

A specific kind of power has to be developed, rather than brute

⁴⁰ Naess, 1989, p. 101-102.

⁴¹ Naess, 1989, p. 85, 165-166.

⁴² Naess, 1989, p. 230.

force. People who have a lot of power over other people can still be weak:

"An increase in power is an increase in the ability to carry out what we sincerely strive to do. Power does not presuppose that we coerce other people; a tyrant may be less powerful than some poor soul sitting in prison".⁴³

Spinoza is not against strong emotions and passions. On the contrary, a growing self-perfection presupposes strong passions. Spinoza differentiates between positive and negative emotions. The former are summarised in *laetitia*, the latter in *tristitia*. Two sorts of *laetitia* may occur: there are emotions that produce *laetitia* for the entire person (*hilaritas*) and there are emotions that touch the person partially and have negative consequences for other parts or aspects (*titillatio*). The positive development of the person is enhanced by the former. This carries along with it a great increase in power. In a Spinozistic account, 'to be happy or cheerful' involves concentration and a higher integration of the whole person. It differs from laughing as such and becoming intoxicated, which often result in passivity.

The negative emotions are *humilitas*, *misericordia* (pity), and *commiseratio*. All are marked by sorrow because of a feeling of impotency or weakness. According to Naess, it is implicit in Spinoza that these evils can be overcome by greater integration. Joy consists in perceiving that we are limited. It is because our reason can perceive limits that we can concentrate on what we can do within these limits.

The final and highest goal is knowledge of God or *amor intellectualis*. This is based on an intuitive knowledge of the

⁴³ Naess, 1995h, p. 254.

connectedness of separate things. God cannot be known or loved except by love and knowledge of the separate things and beings. Therefore, if the highest form of self-realisation can only be achieved by knowing love of God, personal self-realisation is intimately bound up with the self-realisation of all other beings. It is necessary to identify with other beings' strivings for self-realisation. Although Spinoza did not use the notion 'identification' himself, this term is pushed forward, according to Naess, by the content and the structure of his system.⁴⁴

* Gestalt theory

This theory is generally connected to the maxim 'the whole is greater than the sum of its parts':

"Gestalts bind the I and the not-I together in a whole. Joy becomes, not my joy, but something joyful of which the I and something else are interdependent, non-isolatable fragments."⁴⁵

In other words, Gestalt theory is a **holistic** theory.⁴⁶

Before the rise of Gestalt theory, the experience we have when hearing, for example, part of a well-known melody, was described as an experience having a manifold of associations as to the other parts of the melody and to past experiences. Gestalt theory

⁴⁴ Naess, 1989, p. 82-83, 85, 166; Naess, 1995j, p. 230; Naess, 1995h, p. 254-256; Melle, 1997, p. 202-203; Fox, 1990, p. 104-113.

⁴⁵ Naess, 1995e, p. 241; Naess, 1989, p. 60-61.

⁴⁶ Strictly speaking, Gestalt theory is a psychological paradigm (psychology of perception), dating from early this century. In Honderich, 1995, p. 312, we read: It is trying "to explain various aspects of psychology in terms of structures (*Gestalten*)" and a "reaction against earlier sensationalist psychological theories which tried to break down the mental life into atomic sensations and ideas". Naess speaks of gestalt theory in a wider, metaphysical sense.

introduced a way of conceiving the part and the associations as part of one single experience. There is not even an experience of part of the melody as only a part, for its experience is coloured by our experience of the whole melody, at least if it is well-known.⁴⁷

More generally, the world of our concrete everyday experience is not a sum of things but a complex connection of gestalts. The features of a whole or its behaviour are not derivable from the features or the behaviour of all the separate constitutive parts. Part and whole are internally related. A holistic and relational ontology opposes radically any atomistic view. Atomistic views of the world conceive of the world as consisting of separate things that are standing on their own and enter into relations with one another only secondarily. Internal relations are considered to be superfluous and not essential for defining reality. Naess applies the opposition between holism and atomism to the distinction between the world of our everyday experience and the objective nature of our science. The goal of the latter is objective knowledge of things and of their causal relatedness, which supposes abstracting from all determinations that are relative to the subject of knowledge. All sense perception qualities, all emotional, aesthetic and moral definitions of a thing are relative to the senses, feelings, tastes, and valuations of a subject, and have to be clearly distinguished from the objective features of a thing. With the development of modern science, the objective world was often stripped of all concrete sense perception qualities and the concrete everyday world was

⁴⁷ Naess, 1995e, p. 242.

portrayed as a world of subjective projections. In this way, science became more and more alienated from the world of everyday life and its explanatory models became ever more abstract. Sometimes the abstract, scientific description was seen as the only real description. Naess refers to Whitehead, who wrote that the paradoxical assumption that nature is actually without colours, tones, or odours exists since we have confused the abstractions with concrete realities. This is - as mentioned before - the fallacy of misplaced concreteness. At the same time the same science became the basis of an equally untransparent technology which radically changed the world of everyday life. Naess points out that 99% - which may be exaggerated? - of all 'experts' are educated to believe that all which is beautiful, lovable, ugly, or detestable is produced by humanity, with nature having nothing of these qualities in itself.⁴⁸ Naess holds this to account for the global destruction of nature. One of Naess' basic convictions is that the philosophical root of our destructive actions lies rather in our ontology than in ethics. He does not hold that values are not important, but only wants to stress that they are rooted in a certain experience of the world. His ecosophy relies on an ontology which conceives of the concrete world as the real world. The idea that we merely project our sense qualities into nature is rejected emphatically. The opposition between subject and object, and between fact and value, is given up in the spontaneous experience of concrete contents and their gestalts:

⁴⁸ Naess, 1989, p. 54: Reference is made to Whitehead, 1985, p. 69.

"The distinction between 'facts' and 'values' only emerges from gestalts through the activity of abstract thinking. The distinction is useful, but not when the intention is to describe the immediate world in which we live, the world of gestalts, the living reality, the only reality known to us."⁴⁹

Reality is composed of concrete contents, which are part of an infinite amount of gestalts, not out of the primary qualities such as form, extension, position, motion, and amount, that are defined by science. Boldly:

"The structure belongs to reality, but it is not reality. (...) 'Objective descriptions of nature' offered us by physics ought to be regarded not as descriptions of nature, but as descriptions of certain conditions of interdependence and thereby can be universal, common for all cultures."⁵⁰

These are only abstract structures. Einstein, for example, was interested in that aspect which is common for all observers. Naess remarks that 'that which is common' is extremely intangible and in no way obvious.⁵¹ At the level of our spontaneous experience, the question whether or not something is true or false is not at stake. Reality is as it is experienced. The immediate apprehension is what matters. Language does not function as a series of assertions which can be either true or false, but as simple characterising indications. Two different statements (given by two different people) about one thing, for example that it is warm

⁴⁹ Naess, 1989, p. 60.

⁵⁰ Naess, 1989, p. 50.

⁵¹ Naess, 1989, p. 49, 67: Although Naess is wary about abstract structures, we should not forget that he does not reject their significance: "The ecosystem concept is used to describe abstract structures, and the deep ecology movement is to some extent concerned with abstract structures. The importance of abstract structural considerations cannot be overestimated, but, like maps, their function is not to add to the territory, the contents, but to make it more visible. The whole Earth is not the Earth *plus* its maps."

and that it is cold, are not contradictory:

"The same thing appears differently to us, with dissimilar qualities at various times, but they are nonetheless the same things. I interpret this to mean that the relations which define the thing conceptually converge at the same junction."⁵²

Put briefly, Gestalt ontology is a worldview wherein human beings and the rest of nature are no longer opposed as subject and object. Naess speaks of the **relational field** (referring to the totality of our interrelated experience): what we call 'material things' are junctions within this field.⁵³ We have to cultivate our sensitivities for gestalts, our capacity to experience more inclusive, more complex gestalts, for example the gestalt of an entire landscape. He talks for example of his experience while skiing at night in minus 20 degrees celsius under crystal clear blue darkness and a wide moon: "the extreme cold is so much a part of the gestalt that if it were any warmer we would really feel uncomfortable."⁵⁴ The positive and negative gestalts of this experience may thus become part of a deep metaphysical experience or "the supreme gestalt of Janus-faced existence, comprising good and bad on an equal footing, or emphasizing one aspect more than another".⁵⁵

Naess' view that the subject-object distinction is secondary has been called **ontological phenomenism** by Zimmerman. Phenomena simply arise and there is no *Ding an sich* behind them. Zimmerman

⁵² Naess, 1989, p. 55.

⁵³ Naess, 1989, p. 55.

⁵⁴ Naess, 1989, p. 6.

⁵⁵ Naess, 1995g, p. 248.

defends Naess' denial that the objective reality of the outside world is somehow mirrored by the human mind. Heisenberg's uncertainty principle is taken seriously for all our experiences. It is better to say 'the kettle is warm in relation to my hand' than to say 'the kettle is warm'. For the abstract, scientific structures with which we interpret the world Zimmerman writes that "the conceptual structures with which we interpret the world ... are not the phenomena. We must not confuse map with territory".⁵⁶ Naess' position does not coincide with a possible, specific phenomenological view which holds that a place, for example, would be destroyed when the human being observing it is destroyed. He has written that "if we are changed, the river need not be changed".⁵⁷ While maintaining that what we experience is the real world, we experience it neither as 'things in themselves' (Kant's *Ding an sich*), nor as merely subjective (*Ding an mich*).⁵⁸ What becomes clear here is that it is not Naess' aim to deny the existence of a reality apart from the human subject, but to attack our dominant way of conceiving things as merely externally related. He refers to the newborn baby lacking any conception of the tri-partition between subject, object, and medium, and comments:

"In a sense, we are trying to work out this basic sort of crude monism anew, not by trying to become babies again, but by better understanding our ecological selves. This understanding has not had favorable conditions for development, since prior to the time the Renaissance glorified our ego by placing it in opposition to the rest

⁵⁶ Zimmerman, 1994, p. 126.

⁵⁷ Naess, 1995j, p. 231.

⁵⁸ Naess, 1995e, p. 244.

of reality".⁵⁹

By contrast, "an atomistic view of reality is arrived at by systematically 'delearning' the gestalt view which dominates the child's experience".⁶⁰ It is because we lack the capacity to think in wholes that we, for example, do not object to the building of 'just one road' in a large forest.

The question arises as to how we can differentiate between good and bad gestalts. Naess does not give a straight answer to this, but an example of what he calls a 'superior gestalt' is given: when labour sharing leads to labour fragmentation, Naess holds that superior gestalts (for example decision making) are harmed. These superior gestalts are also called 'apperceptive gestalts': sensory or perceptual gestalts are combined with normative and/or assertive gestalts.⁶¹ It is not clear what Naess means here by 'superior gestalts', but I suspect that the term 'fragmentation' in 'labour fragmentation' is opposed to a real sharing of labour, which safeguards the fact that individuals are more than just fragments of their company, and have to be involved in the decision making of their company.

Naess holds that a greater sensitivity for qualities leads to a

⁵⁹ Naess, 1995j, p. 231.

⁶⁰ Naess, 1995c, p. 244.

⁶¹ Naess, 1989, p. 60, 143: Individual creativity is likely to be curtailed as work-units grow bigger for there is less possibility for each member (doing a small and specialised part of the job) to understand what is going on. Naess is careful as ever: "But again one should warn against absolutism. A worker in a big firm with a strong central authority may have better conditions of self-determination in work than one in a small firm. 'Small' is not always 'beautiful' as Schumacher himself clearly announced." Reference is made here to Schumacher, 1973.

greater capacity to combine them into higher or more comprehensive gestalts. As a consequence, we see ourselves more as knots in a net of relations. A growing awareness of connectedness entails a growing feeling of connectedness. All of a sudden, we can then experience a kind of 'a-ha! *Erlebnis*' or disclosure, a 'gestalt switch': new relations among things are perceived. We no longer need an ecological ethic in the sense of moral commandments and coercive duties. Naess refers here to Kant's difference between moral and beautiful actions. Whereas the former relate to duties, obligations, or the acceptance of a moral law, the latter result from the natural inclination to do what is appropriate according to the law.⁶² From spontaneous and joyous experiences of connectedness with nature, intense and caring love for the conservation of nature flow spontaneously:

"Environment is then not felt to be something strange or hostile which we must unfortunately adapt ourself to, but something valuable which we are *inclined to* treat with joy and respect, and the overwhelming richness of which we are inclined to use to satisfy our vital needs."⁶³

Such care will be considered burdensome and avoided by all means if one lacks such experiences. Naess thinks it is important to move from ethics to ontology and back:

"Clarification of differences in ontology may contribute significantly to the clarification of different policies and their ethical basis. In an analysis that begins with concrete contents, the is-ought and fact-value dichotomies don't look quite as they did from where Hume started, namely at factual and value *affirmations*. Expressions of concrete contents are designations, not declarative sentences. Expressions of the kind 'object x has value y' immediately lead to the question: Given an object x, how

⁶² Naess, 1989, p. 8, 85-86; Naess, 1993a, p. 210; Naess, 1995j, p. 236; Fox, 1990, p. 217.

⁶³ Naess, 1989, p. 85; Naess, 1996: Here, Naess said: "You see more if you walk carefully in the woods".

do I assess its value y ? If we start with designations of concrete contents, for instance 'delicious, red tomato to be eaten at once' or 'repugnant, rotten tomato' the evaluative terms are there from the very beginning of our analysis. And there is no separatable tomato to value!"⁶⁴

Naess' conviction that it is "unwarranted to believe that how we feel nature to be is not how nature really is" is also illustrated by the following example: "the joyful tree I see in the morning light is not the sorrowful one I see that night, even if they are the 'same' tree in terms of their abstract (physical) structure".⁶⁵ In this way, Naess reacts against the classical view that the quality of the experience is somehow merely subjective and not part of the objective world. For Naess, it is rather so that reality is so rich that we cannot see everything at the same time: we see separate aspects in separate moods.

Naess claims that, although some norms are as obvious as bus schedules, normative frankness should always be accompanied by an elimination of absolutisms, arrogance, and 'eternalism' with regard to validity in time and in social and physical space. We should show **normative frankness** or state our positions in a debate

⁶⁴ Naess, 1989, p. 67; The positive relationship of ethics to ontology that is characteristic of deep ecology has been anticipated by Hans Jonas where he dreams of an ethic which is ultimately based on an objective assignment by the nature of things (in theological terms the *ordo creationis*) for he is convinced that "only an ethics which is grounded in the breadth of being, not merely in the singularity and oddness of man, can have significance in the scheme of things". See Jonas, 1966, p. 283-284. We may remark that, unfortunately, the modern divide between ontology and ethics may well have been prepared by a classical theistic form of Christianity that has often presented creation as the backdrop for the historical drama of human salvation. We will return to a discussion of classical theism in the final part.

⁶⁵ Naess, 1995j, p. 237.

as directly and concretely as possible. No sneaking about, but direct confrontation. This is possible by trusting one's natural impulses.⁶⁶ It has to be noted that Naess' approval of actions following from natural inclinations has been misunderstood. Callicott, for example, writes that "deep ecology ... rejects ethics outright".⁶⁷ Naess has reacted to this charge by saying that it is not ethics as such that should be thrown overboard, but we should rather see that **moralising** as the attempt to tell people how they should behave has a very limited motivational value.⁶⁸

* Ecology

Not ecology as a scientific theory, but ecological **field-work** in nature is the most important source of inspiration for Naess' ecosophy.⁶⁹ In his 1973 article, Naess writes:

⁶⁶ Naess, 1989, p. 69: It is worthwhile to note that Naess (Naess, 1968, see especially p. 70-74) has written a book on Pyrrhonian scepticism (based on Pyrrho from Ellis who lived around 300 BC, and developed by Sextus Empiricus about 400 years later). This form of scepticism differs from other dogmatic forms of scepticism in that it does not claim that there is no truth or that truth cannot be reached by us. A Pyrrhonian sceptic holds only that up to this point no final or decisive arguments for or against the truth of some proposition or statement have been found. Interest in and openness for new arguments are characteristic features. The possibility that conclusive arguments may be provided is left open. This position does not lead to a lack of practical resoluteness. Strong convictions can go hand in hand with knowledge about the inconclusiveness about one's point of view or suspension of judgment.

⁶⁷ Callicott, 1993b, p. 338.

⁶⁸ Naess, 1995b, p. 216.

⁶⁹ Zimmerman, 1994, p. 96: Zimmerman remarks that Baudrillard was convinced that nature died as early as the concept of 'ecology' was introduced. Zimmerman seems to agree as he adds that the scientific scheme that is employed by ecologists for understanding complex natural processes may be seen as an example

"the ecological field-worker acquires a deep-seated respect, or even veneration, for ways and forms of life. He reaches an understanding from within, a kind of understanding that others reserve for fellow men and for a narrow section of ways and forms of life. To the ecological field-worker, the equal right to live and blossom is an intuitively clear and obvious value axiom. Its restriction to humans is an anthropocentrism with detrimental effects upon the life quality of humans themselves."⁷⁰

According to Naess, some field-ecologists can identify deeply with their object of research. Nature is not the dead, passive, value-neutral nature of mechanistic science. Attitudes of love, reverence, and care for what is being studied, can be developed.

But Naess also values modern **scientific ecology** for its stress on symbiosis and interdependence. He thinks this discipline can provide a cognitive basis for a sense of belonging which may thus expand to ecospheric belonging: "One can, without hypocrisy, *desire something which is for the benefit of other living beings* - and one normally obtains great, rich satisfaction from it."⁷¹ Also, the study of ecology reveals how little we know about our ecosystem. Since small changes can trigger off large, undesirable, irreversible, unpredictable, and far-reaching consequences that can be detrimental for many forms of life, Naess suggests that we should often abstain from making changes.

Conservation biology, which combines insights from ecology with

of the typically modern attitude of reducing the world to the status of a '*Bild*' (a picture or representation) for the technological human subject.

⁷⁰ Naess, 1973, p. 95-96.

⁷¹ Naess, 1989, p. 168-169.

normative ideas, can also be an important source of inspiration for the development of an ecosophy. Naess seems to use the term 'conservation biology' in a technical sense to refer to a specific multidisciplinary reaction from the scientific community against the destruction of biodiversity, led by Michael Soulé. According to Soulé, there are four normative postulates: firstly, diversity of organisms is good; secondly, ecological complexity is good; thirdly, evolution is good; and fourthly, biotic diversity has intrinsic value. Soulé focuses primarily on fighting against the human destruction of the conditions necessary for continued evolution, including speciation. Even our nature reserves are inappropriate, because due to their usually small size: 1) extinctions are inevitable. Species diversity has to be maintained artificially because natural colonisation from outside sources is very unlikely; 2) speciation will not occur easily since species do not remain isolated for long periods and for some of them artificial gene flow with their fellow members in other reserves is essential for survival.⁷² Naess concludes that conservation biology shows the gravity of the situation, which gives some urgency to making the changes suggested in points 4 to 6 of the platform.

Naess refers to the importance of **palaeontology** as well, which is the science that reveals the consecutive phases in the development of life on earth. It leaves Naess with the impression that its development is an integrated process, despite increasing

⁷² Naess, 1989, p. 45-47: Reference is made to Soulé, 1985, 727-734.

diversity and complexity. Traditionally, self-preservation was supposed to be common to all life forms. Naess finds this term misleading for it does not account for the dynamics of expansion and modification:

"There is a tendency to realise every possibility for development, to explore all possibilities of change within the framework of the species and even to transgress its limits. Palaeontology tells of the 'conquest' of, or 'expansion' from sea to, land and air, and the development of mutual aid."⁷³

Precisely because of this, Naess substitutes the defensive passivity resounding in 'self-preservation' by the more active nature of 'Self-realisation' or 'Self-unfolding', as remarked earlier on.⁷⁴

*** The importance of 'Self-realisation!'**

The four sources of inspiration that we have described above allow us to come to a deeper understanding of what is meant by, especially, Naess' central norm in his ecosophy T: self-realisation. It indicates a kind of perfection, as a process, but also as an ultimate goal. Although this notion is purposefully kept vague, it is developed in three different directions:

T0 - self-realisation

T1 - ego-realisation

T2 - self-realisation (with lower case s)

T3 - Self-realisation (with capital S)

⁷³ Naess, 1989, p. 166.

⁷⁴ Naess, 1989, p. 166.

At first sight, the urge for western people to express themselves freely, without reference to or taking into account of other human beings and nonhuman nature (=ego-realisation) seems to be the basic problem. It is expressed in the Norwegian (and Flemish) proverb: "One man's bread is another man's dead."⁷⁵ At a closer look, this individualistic understanding of self-realisation is questioned radically. Since we, human beings, have the specific capacity to perceive the urge other living beings have for self-realisation, a kind of responsibility for our conduct towards them must be assumed. Deep ecologists claim that human beings, when they come to an **appropriate understanding** of their self, will contribute **spontaneously** (and not because of some sort of moral duty or force) to the **protection** of their **larger Self** (with a capital 'S'). This embraces not only other human beings, but all the life forms on the planet. At one point Naess even writes that it includes "nature itself" or "the universe".⁷⁶ Yet in other places he writes that it does not refer to a collectivity. The capital S should therefore be used sparingly and only to indicate that the widening and deepening of the self can go on *ad infinitum*. Naess emphasises that

"the infinite level of Self-realisation only makes sense metaphysically, the capital S should be used sparingly. At any level of realisation of potentials, the individual egos remain separate. They do not dissolve like individual drops in the ocean. Our care continues ultimately to concern the individuals, not any collectivity. But the individual is not, and will not be isolatable, whatever

⁷⁵ Naess, 1989, p. 85: Quote to be corrected from "dead" to "death".

⁷⁶ Naess, 1989, p. 9; Naess, 1993b, p. 186.

exists has a gestalt character."⁷⁷

This shows that self-realisation is neither ego-trip nor the merging of the self into a larger Self.

If Naess would have to give up the term because of its possible misinterpretation in terms of ego-trip, he would opt for 'universal symbiosis'. But he remarks that this could also be misinterpreted in terms of a denial of individuality. And this is precisely not what self-realisation is! Indeed, a good clarification of the word is 'realising inherent potentialities'.⁷⁸

Some deep ecologists have argued that it may be better to change the term 'deep ecology' to 'transpersonal ecology', as has been suggested by Warwick Fox.⁷⁹ This is partly the result of Fox's conviction that Naess' view that it is the depth of argumentation which distinguishes shallow from deep ecology, is problematic. This is so because Fox has argued that strong anthropocentrism may also be supported by deep philosophical or religious premises

⁷⁷ Naess, 1989, p. 194-195; Zimmerman, 1994, p. 36: Zimmerman has expressed the way in which differences between individuals are maintained quite well when he recounts Naess' early experiences with the creatures surrounding him: "Though these little organisms were *different* from him, he felt they were not *radically* other. His sense of identification with all life was strengthened when he became a helpless witness of the suffering of an insect."

⁷⁸ Naess, 1995j, p. 229; Naess, 1993a, p. 209-210.

⁷⁹ Fox, 1990, p. 197, 199-202: Fox points out that transpersonal psychologists, like for example Maslow, use the word 'trans' both in an egoistic, personal sense, and in a sense that is more inclusive than the individual person. While the maximal extension for human identification is restricted by Maslow to the human species, others have been more open to transcend human boundaries and identify with everything. This resulted in a shift from transpersonal psychology to transpersonal ecology.

such as the view that the nonhuman creation has been created by God for the sake of being exploited by humans.⁸⁰ Naess, however, has defended his use of the term 'deep ecology' against Fox simply because he is convinced that deep ecologists really do ask deeper questions as to the 'why?' and 'how?' of current practices. I agree with Naess. If we want to escape from an ultimate moral relativism, we have to hold that people supporting a strong anthropocentric ethic do not ask deep enough questions. This is understandable as we live in a system that nourishes people's laziness and slavish dependence on the global supermarket. Naess also makes the important remark that the 'deeper questioning' should be understood in terms of the more powerful German and French equivalents of the word questioning, being: *problematizieren*, *Problematizierung*, *problematique*, and so on.⁸¹ It is because this has not happened sufficiently that no radical changes towards an ecologically sustainable society have been made.

Fox has expressed that the name 'deep ecology' is so widely accepted that it is unlikely to be replaced by 'transpersonal ecology'. Nevertheless, his preference for using 'transpersonal' is understandable, given the fact that what is of the essence for deep ecologists is the substitution of the classical concept of

⁸⁰ Fox, 1990, p. 133-137.

⁸¹ Naess, 1995d, p. 209-210; Griffin, 1994, p. 205: Griffin has also recommended we should keep the term 'deep ecology' because of its insistence on biological egalitarianism and its conviction that inherent value extends all the way down, that no line can be drawn below which we can treat things simply as means to our ends. This clearly sets it apart from most other approaches.

the person by a wider conception of the 'Self' (the ecological self). Deep ecologists are convinced that the narrow self can identify with everything (as all individuals are aspects of the same universe). If we become alienated from nature, we become alienated from part of ourselves. The evolution of life on earth shows that everything is part of an encompassing unity despite growing diversity and complexity. The key to a less egocentric form of self-realisation is the ever more encompassing identification based on a deeply felt connectedness. People underestimate their capacities for self-realisation if they identify it with acting egotistically, with I-development and I-affirmation. The wider sense of life includes the inorganic substratum of life. It makes sense to speak of the 'living' earth, with which one can identify. Naess also calls this an oceanic feeling.⁸² Self-realisation is intimately connected with the maintenance of a great diversity of life forms: our experience is enriched by our identification with the manifold of different ways in which other life forms seek self-realisation.⁸³ This includes a religious component that allows us to see that nature is not our, but God's property: this is one of the "fundamental intuitions that everyone must cultivate if he or she is to have a life based on values and not function like a computer".⁸⁴ The

⁸² Naess, 1989, p. 171-176, p. 173: Naess has admitted that he does not precisely know how the plurality of selves are connected to some unity, but in any case "the widening and deepening of the individual selves *somehow* never makes them into one 'mass'."; Naess, 1993b, p. 186; Fox, 1990, p. 249-254.

⁸³ Zimmerman, 1994, p. 146.

⁸⁴ Naess, 1993b, p. 186; Zimmerman, 1994, p. 146: Zimmerman has clarified that, when we identify with others, we do not identify with what they look like, but with the *atman* within them.

cultivation of these intuitions is a process that is extended over time:

"The tiny infant gradually distinguishes its mother from the rest of its surroundings, and it concentrates positive feelings around the relations, the context, with her. The 'grown-up child', the naturalist, extends this positive feeling to all of nature through the insight that everything is interconnected."⁸⁵

Favourable conditions are needed for a growing Self-realisation or a transition from I-it to I-thou attitudes - in Buber's terminology. If these conditions are lacking, indifference, alienation or even self-denial may occur.⁸⁶ Among these favourable conditions are also tragic situations. Naess' standard example is his witnessing the death of a flea while peering through a microscope observing how two acid chemicals interact. Accidentally the flea landed in the liquids. Saving it was impossible. During the death struggle that followed and lasted for several minutes its movements were "dreadfully expressive", and Naess felt compassion which he described later in terms of a process of identification: "I saw myself in the flea".⁸⁷ Naess also provides the example of mountains, which have been venerated for thousands of years and in many cultures for their equanimity, majesty, and so on. Only via identification does one get the feeling of lack of greatness of one's narrow self. But under adverse conditions one will feel alienated and the mountain will stand for threat and terror, an adversary to be overcome. Naess remarks that

⁸⁵ Naess, 1989, p. 164.

⁸⁶ Naess, 1989, p. 172-174; We could expand here and delve more deeply in psychology and psychoanalysis and focus on the development of the human psyche.

⁸⁷ Naess, 1995j, p. 227.

alienation or *Verdinglichung* is caused quite frequently by a kind of technology which reduces everything to mere objects of manipulation, a phenomenon enhanced by big finance.⁸⁸ It is important to add that Naess does not glorify nature. We may also identify with much cruelty in nature, which may be deplored without applying negative ethical judgments. Self-realisation or identification does not mean that our smaller self is submerged or dissolved in an undifferentiated unity:

"We need not cultivate the ego and the notion of winning over others in order to realise our potentialities. Nor need we ignore or suppress the ego in order to broaden and deepen the self in contact with the Self."⁸⁹

Self-realisation is also connected to joy. Naess calls the conviction that "joy is related to the environment, and to nature (...) one of the chief presuppositions of the ecological movement".⁹⁰ One of the reasons why people are pessimistic today is because they are passive. We can be joyful amidst all the misery in the world by doing something about it. Self-acceptance or in Spinoza's terms '*acquiescentia in se ipso*' is an important part of joy. The fact that so many people are passive relates to a lack in self-respect or faith in their own capacities to change. This is why not many people dare to speak up in public about

⁸⁸ Naess, 1989, p. 172: The meaning of identification is also clarified by comparison to solidarity: "The relationship between identification and the narrower process of *solidarity* is such that every deep and lasting state of solidarity presupposes wide identification. The essential sense of common interests is comprehended spontaneously *and is internalised*. This leads to the *dependency of A's Self-realisation upon B's*."

⁸⁹ Naess, 1989, p. 86 (quote), 173; Fox, 1990, p. 232.

⁹⁰ Naess, 1995h, p. 250.

environmental issues.⁹¹

Ultimately, increase in self-realisation and joy or happiness constitute one gestalt. Perfection or self-realisation is the development of our deepest nature, which makes us joyful. It is the will to go on (cfr. Latin: *per-ficere*) or perseverance. This is at odds with the monotonous and highly specialised life most people are leading:

"Integration of personality presupposes that we never act as mere functionaries or specialists, but always as whole personalities conscious of our value priorities, and of the need to manifest those priorities in social direct action."⁹²

Perfection is quality of life, which is proportional to the degree to which the personal basic objectives are reached. This goal can never be fully reached, for Self-realisation is active, in other words: it has the character of a vector or direction from the self to the Self.⁹³ An increasing self-realisation leads to an increase in beautiful actions. The Kantian difference between beautiful and moral acts is illustrated by the relatedness of the former to self-realisation:

"Thus, everything that can be achieved by altruism - the *dutiful, moral* consideration for others - can be achieved, and much more, by the process of widening and deepening ourselves. Following Kant, we then act *beautifully*, but neither morally nor immorally."⁹⁴

There is no need for altruism if a person expands him- or herself to include other people and species and the entire nature. Naess

⁹¹ Naess, 1995h, p. 252-253.

⁹² Naess, 1995h, p. 253.

⁹³ Naess, 1989, p. 9; Naess, 1995j, p. 237-239.

⁹⁴ Naess, 1995j, p. 226; Naess, 1989, p. 35.

refers to Gandhi, who replied to the question as to how he could do all the altruistic things he was constantly doing by saying that he did not do anything altruistically but tried to make progress in his self-realisation. This does not result in a rejection of ethics:

"Moral exhortation, punishment of ecocriminals, economic sanctions, and other negative tools have their place, but the education towards greater and wider identification through widening the Self is a thoroughly positive way."⁹⁵

Correlative to understanding Self-realisation is acknowledging the universal right to live and blossom. Naess thinks it is misleading to speak of equal rights for all life forms, since the right to live is a universal right which cannot be quantified. This is not an isolatable norm for everything to be treated the same way:

"Our apprehension of the actual conditions under which we live our own lives - that is, certain 'hypotheses' high up in the systematised total view - make it crystal clear that we have to injure and kill, in other words actively hinder the self-unfolding of other living beings. Equal right to unfold potentials as a principle is not a practical norm about equal conduct towards all life forms. It suggests a guideline limiting killing, and more generally limiting obstruction of the unfolding of potentialities in others."⁹⁶

Naess also **opposes** those who **rank** living beings according to their relative **intrinsic value**, for none of the following arguments they usually espouse is solid:

"(1) If a being has an eternal soul, this being is of greater intrinsic value than one which has a time-limited or no soul.

(2) If a being can reason, it has greater value than one which does not have reason or is unreasonable.

(3) If a being is conscious of itself and of its possibilities to choose, it is of greater value than one

⁹⁵ Naess, 1989, p. 176.

⁹⁶ Naess, 1989, p. 167.

which lacks such consciousness.

(4) If a being is a higher animal in an evolutionary sense, it is of greater value than those which are farther down on the evolutionary scale."⁹⁷

In spite of this, Naess holds that there are rules for justifying different behaviour towards different kinds of living beings, but these do not depend upon some alleged difference in value. It is against his intuition of unity to say 'I can kill you because I am more valuable' but not against his intuition to say 'I will kill you because I am hungry'. This is justified as follows:

"In the latter case, there would be an implicit regret: 'Sorry, I am now going to kill you because I am hungry'. In short, I find obviously right, but often difficult to justify, different sorts of behaviour with different sorts of living beings. But this does not imply that we classify some as intrinsically more valuable than others."⁹⁸

This lack of interest in the establishing of hierarchies of value relates to the fact that deep ecologists are primarily interested in developing an ecocentric sensibility or general orientation to allow - in the words of Fox - "all entities the freedom to unfold in their own way unhindered by the various forms of human domination", rather than in formulating an ecological ethic with specific guidelines for action.⁹⁹

Warwick Fox, a well-known interpreter of the deep ecology movement, has distinguished three possible ways that allow a person to identify with his or her larger Self: **personally** based identification, **ontologically** based identification, and

⁹⁷ Naess, 1989, p. 167.

⁹⁸ Naess, 1989, p. 168.

⁹⁹ Fox, 1989, p. 6 (quote); Zimmerman, 1994, p. 45; Fox, 1993, p. 214.

cosmologically based identification. The first happens through personal contact with other entities. When, for example, the integrity of your dog is endangered, you feel endangered too. The second occurs via the intense realisation of the fact that there are things, that there is something rather than nothing. This is the realm of what Wittgenstein called 'the mystical'. The third manner of identification is cosmologically based identification or the deep realisation of the fact that all entities are aspects of one unfolding reality.¹⁰⁰

Fox prefers cosmological identification as personal identification may be too restrictive. Further, Fox is wary of personally based identification as it has been defended on sociobiological grounds by Callicott, who has - as we will see in more detail in section

¹⁰⁰ Fox, 1990, p. 249-254: For the second form of identification, reference is made to Wittgenstein, 1961, proposition 6.44: "It is not how things are in the world that is mystical, but that it exists."; Naess, 1989, p. 170: With regard to the first way, Naess speaks for example of the human joy in the identification with the salmon on its way to its spawning grounds, and the sorrow felt upon the thoughtless reduction of the access to these places; Cosmologically based identification may be fostered by the Gaia hypothesis or the idea that life on Earth is supported by a self-regulating feedback system that maintains, like a living organism, the right conditions to sustain life. The acceptance of such a hypothesis may, however, be open to three criticisms. Firstly, scientists disagree whether there is such a self-regulating system, and the analogy with a living organism may be overstretched or inadequate. Secondly, it may overestimate our capacity to understand the complexity of the earth's processes. Those who claim to understand what is going on, may believe we are now able to assess human impact accurately and therefore are in total control. And thirdly, the idea that the Earth is self-regulative may justify all human impact as it could be argued that 'nature takes care of itself anyway'. Regarding the first objection, it may be worthwhile to mention that one of the founders of the Gaia hypothesis, James Lovelock, has written about 'terraformation' or the idea of transforming Mars into a viable place. See Lovelock, 1979 and Lovelock and Allaby, 1984.

4.4.3. - argued that wider identification may have its roots in inclusive fitness (the reproduction of one's genes, either directly or indirectly by helping one's relatives). The family circle may then gradually expand with cultural evolution, and finally extend to one's ecosystem as people become increasingly aware of the fact that their own survival depends on the survival of their ecosystem.¹⁰¹ Fox believes this is an attempt to provide a biological underpinning for personally based identification, which may work against rather than support a wider and more inclusive identification.¹⁰² This is why Fox puts more hope in, especially, cosmological identification. Zimmerman, however, who is inspired by the work of Heidegger, thinks the new ecological era will be introduced especially by ontological identification or a new sense of what it means for something "to be".¹⁰³ The attitude of *Gelassenheit* or 'letting things be' has to be cultivated, which involves at least the three following aspects. Firstly, it means not interfering with things unnecessarily. Secondly, it means taking care of things or allowing them to fulfill their potential. And thirdly, it involves the ontological work of 'keeping open the clearing' through which things can manifest themselves. Zimmerman clarifies that this aspect relates to a disclosive sense lying beyond the distinction between activity and passivity (where activity means imposing one's will and passivity merely standing around).¹⁰⁴

¹⁰¹ See for example Callicott, 1993a, p. 127.

¹⁰² Fox, 1990, p. 264-265.

¹⁰³ Zimmerman, 1994, p. 45.

¹⁰⁴ Zimmerman, 1994, p. 132.

What is clear is that there is a tension between the more personal, concrete, and exclusive concerns served by personal identification and the more impersonal, abstract, and inclusive concerns of the two other forms of identification. We will return to this issue in the critical points raised in the following section.

4.4. Some Critical Remarks with Regard to Deep Ecology

4.4.1. Different Meanings of 'Self-realisation!'

A critical look at Naess' ecosophy reveals a blatant and **enormous problem**: the transition from norm one 'Self-realisation!' to norm two 'Self-realisation for all living beings!' is - in spite of Naess' assertion - far from logical. While hypothesis one specifies Self-realisation as identification with others, it is clear that it is impossible that it could be that this is what is meant by norm two. The reason why this is so relates to the fact that only human beings, and perhaps some higher animals (including some cetaceans and some primates), can reasonably be held to be capable of moral behaviour, and this capacity is a *conditio sine qua non* for identification with others. Moral behaviour presupposes the capacity to make rational decisions (to question one's personal preferences in the light of their universalisability) and the capacity to empathise with others, which are clearly not capacities shared by all living beings. This is why the term 'self-realisation' in norm two must refer to something that is different from the wider identification meant

by norm one. A comparison with one of the key terms in the platform - where the notion 'self-realisation' is absent - makes it clear that 'flourishing' may be a good synonym. Naess also speaks of self-realisation as characteristic for entities marked by 'negative entropy'. As mentioned before, his meaning is unclear, as the thermodynamic and statistical mechanical definitions of entropy do not admit negative values. As we have seen in chapter four of part one, any local decrease of entropy implies a global increase of entropy. This leads us to suspect that he ascribes primarily instrumental value for living organisms to ecosystems, given the fact that ecosystems may not be marked by a decrease of entropy. If this is the case, speaking of 'identification with the universe' may be problematic (as the universe as a whole may not exemplify what Naess means by 'self-realisation'). We will return to this issue in the next chapter on weak anthropocentrism.

Now that we have differentiated self-realisation as **identification** from self-realisation as **flourishing**, there remain two more problems: do we really know what each of them mean?¹⁰⁵

If we concentrate on identification, we could ask if we have to identify with the fly that is caught in the web of a spider, with the spider, or with both? This is not made clear by Naess. Also, it is not very clear if Naess thinks identification leads to either suffering or joy, and we could question whether Naess provides room for the suffering that accompanies self-sacrificing

¹⁰⁵ Most of the time the context clarifies which form of self-realisation is meant.

behaviour.

When concentrating on flourishing, it is clear that the flourishing of the spider means something else than the flourishing of the fly. Naess' emphasis on symbiosis in the third point of his original article and in norm five of his ecosophy **downplays** the reality of the **struggle for life** in nature and overestimates the amount of symbiosis and co-operation: most species and individuals do not seem to have evolved for the benefit of other species or individuals. What is more likely the case is that species have evolved because they have been more successful in a competitive struggle for survival and reproduction. This does not take away the fact that Naess is right that the moral value suggested by the word symbiosis is that co-operation ('you and me') rather than competition ('you or me') should be stressed: symbiosis is vital for decreasing human competition with other species resulting in the current extinction rate of nonhuman species and for realising the fact that species depend upon one another and that, as a consequence, the eradication of one species can trigger a dramatic decrease of diversity.

4.4.2. 'Self-realisation!': The Root of the Ecological Crisis?

Another critique of 'Self-realisation!' relates to an aspect that we mentioned where we defined this notion and that has been addressed most notably by eco-feminists. Eco-feminism is a branch of feminism that tackles androcentrism or male-centeredness which it regards as the most important factor leading to female and

environmental domination.¹⁰⁶ Accordingly, eco-feminists such as Ariel Salleh and Jim Cheney have reacted against Naess' central norm of self-realisation as they believe there is a **masculine bias** underlying this supposedly universal ideal, so that the Self is synonymous to an **inflated male ego** which assimilates everything from which it is alienated, and which has led to the ecological crisis.¹⁰⁷

However, although self-realisation may be connected with male domination, this can **only** be done if self-realisation is understood in a narrow way, as ego-realisation, where people realise their aims to the expense of one another. Since Naess stresses the need to transcend ego-realisation, it may not be possible to make the same charge against Naess' ideas about a wider identification, given its stress on egalitarianism, rather than on male domination, apart from the fact that all language is tainted by patriarchal or androcentric domination (in which case this critique does not tackle the notion 'Self-realisation' as such).

However, Salleh has argued that "the deep ecologists' own approach

¹⁰⁶ The term 'eco-feminism' was introduced as '*ecofeminisme*' by d'Eaubonne, 1974; What eco-feminism stands for can be derived well from Salleh, 1992, p. 204: "Under patriarchal culture, the program of repression that has treated women and colored peoples as resources, from the beginning of recorded history, has also been the ideology that plunders nature. This association of women and minorities with nature means that if there is to be any chance of political change in attitudes toward the environment, there will have to be a shift in gendered and racial attitudes at the same time"; Fox, 1989, p. 15: In my opinion, Fox has reacted rightly against eco-feminism's view that it is androcentrism, rather than strong anthropocentrism which has to be tackled by saying "that a socially egalitarian society does not necessarily imply an ecologically benign society".

¹⁰⁷ Salleh, 1984, p. 340; Cheney, 1987, p. 121, 125.

to mothering, via 'population control' (...), remains patronizing and managerial, sitting badly with their professed egalitarianism", concluding that women, "not men, must be allowed to make decisions about how to use their own bodies".¹⁰⁸

The problem with this is that Salleh does not see that all ethical people have to control or, if you prefer another term, decide as to the number of children they should have, since parents have to take responsibility for their children's upbringing (among other things), that men cannot be left out when it comes to deciding about procreation (Salleh could be accused of inverting feminism), and that decisions about procreation are logically distinct from decisions about how to use one's body.

We conclude that the egoistic and androcentric critique of self-realisation is unjustified.

4.4.3. 'Self-realisation' and Monism

Naess' recommendation of wider identification has also been subjected to a critique that points the other way: rather than inflating the male ego, the individual (male and female) self may not be protected enough, but subjected to or **absorbed** by a **larger whole**. Zimmerman has argued that this critique may relate primarily to the ideas associated with the notion of 'Self-realisation' as propounded by Freya Matthews, rather than to all deep ecologists. Matthews regards the cosmos as a kind of dynamic self that has its own *conatus* or will-to-exist which is

¹⁰⁸ Salleh, 1992, p. 212; Frankenberry, 1996, p. 37: Frankenberry makes the same point: "concern for world population control (...) translates as 'control of women'."

conditioning its individuals and is conditioned itself by the individuals through a series of feedback loops.¹⁰⁹ Zimmerman has pointed out that most deep ecologists would not support her in viewing the cosmic Self as having its own *conatus*, and would say that Matthews does not safeguard the autonomy of the individuals over and against what she describes as the cosmic Self.¹¹⁰ The problem with any monistic conception of the world has been pointed out well by Northcott:

"Why should a monistic cosmos which is identified with God lead us to respect the vulnerable more than the powerful? If God is identified with life so completely then does it not follow that, since the human species has come to dominate and hominise the planet, that God has done this as well (...)? Does God catch a cold when we catch a cold? Is God in the atoms which were split apart by a nuclear bomb on Mururoa Atoll as I wrote this chapter?"¹¹¹

This problem has also been perceived by Celia Deane-Drummond. She reacts specifically against deep ecology in the following way:

"The new consciousness, that calls for a realisation and extension of the self into an all inclusive idea, where there are no distinctions between self and non-self, is highly problematic. Identification with everything leads to a form of eco-fascism which bears some resemblance to Stoic patterns of thought. Ironically, perhaps, an extension of the self tends to project self into the world in an 'anthropocentric' way, which is the opposite of the supposed holistic 'dream' of deep ecology".¹¹²

A similar critique has been espoused by Palmer, who additionally

¹⁰⁹ Matthews, 1990, p. 154-155.

¹¹⁰ Zimmerman, 1994, p. 43.

¹¹¹ Northcott, 1996, p. 159-160.

¹¹² Deane-Drummond, 1996, p. 14; Similar critiques have been raised by Plumwood, 1993, p. 174 and Northcott, 1996, p. 113-115: Northcott argues that Naess' approach can be seen as an attempt to conceive of the other as incorporated into the self, which downplays the differences between human selves and the nonhuman world, which may lead to a homogenisation of nature and a further suppression of its autonomy and otherness.

points out that an unqualified holism does not provide guidelines as to the problem of **how** to resolve ethical conflicts:

"If everything is part of one's extended self, then the resolution of conflict becomes impossible, since one identifies with both the hunter and the hunted; with the rainforest, the indigenous tribes and with tree fellers. Alternatively, identification with everything, that is to say with the planet itself, may lead to the view that the best actions are those which put the entire Earth first. As was seen with just such an interpretation of the Gaia hypothesis, this can lead to views which can be described as 'eco-fascist'."¹¹³

A few remarks have to be made with regard to these critiques. Firstly, we have to remind ourselves that it is not true that all distinctions between self and non-self are wiped out by the process of wider identification. However, these critiques are understandable, given the fact that Naess is - to use the word of Rothenberg - "stubbornly" ambiguous about what is meant by self-realisation: while he sometimes stresses that self-realisation results in an identification which extends exclusively to separate individuals who "do not dissolve like individual drops in the ocean", at other places he writes of an identification with the universe.¹¹⁴ Zimmerman, however, has remarked that the deep ecological nondualism may avoid the charge of monism by holding that "where there is one, there must be two, for one cannot be understood apart from two" which leads to the conclusion that what is central to nondualism is not that 'all is one', but that 'there are not two'. In this way it avoids "melting everything together in what Hegel called 'the night in which all cows are black'".¹¹⁵

¹¹³ Palmer, 1994, p. 92.

¹¹⁴ Naess, 1989, p. 8, 195.

¹¹⁵ Zimmerman, 1994, p. 290; A clear case of someone who does not avoid the charge of monism is Milligan, 1996.

Secondly, as mentioned before, I do not think that identification is tantamount to the extension and projection on to the world of the human ego, thus reinforcing anthropocentrism and denying the otherness of nonhuman nature. It could be argued that it is rather a deficient development of our capacity for identification with nonhuman and human others which accounts for respectively anthropocentrism and individualism.

Thirdly, Deane-Drummond and Palmer link the deep ecology movement with philosophical assumptions built on the *Gaia* hypothesis, which is not without its problems.¹¹⁶ Briefly, the *Gaia* hypothesis boils down to the idea that living organisms not only adapt to their environmental setting, but that they also help to regulate their environmental conditions to sustain life.¹¹⁷ It is important to see that this hypothesis may support a variety of moral points

¹¹⁶ Deane-Drummond, 1996, p. 13-14.

¹¹⁷ Lovelock, 1979: The hypothesis is based on some important observations. Firstly, there is the remarkable fact that our planet is unique in having sufficient oxygen to favour life. Secondly, there is the remarkable fact that our planet has maintained a constant temperature and gaseous composition over millions of years, while one would expect this to have changed as the temperature of the sun has become higher over the years; The *Gaia* hypothesis has been challenged on scientific grounds. Kirchner, for example, remarks that the *Gaia* hypothesis also assumes that life had destabilising effects early in the history of our planet, which leads to the question: "If *Gaia* stabilises and *Gaia* destabilises, then is there any possible behaviour that is not *Gaian*? Is *Gaia*, then, simply a theory so flexible (and by implication free of specific empirical content) that it can be wrapped around any paleoclimatic record?" See Kirchner, 1991, p. 41; Another objection is that life need not persist for conditions to be kept constant as many inorganic systems have feedback mechanisms serving the same purpose. We have to refer here to the research of Prigogine. See for example Prigogine and Stengers, 1984. Finally, it may be questioned whether all life forms on earth behave as if they were part of a single organism, which is suggested by the *Gaia* model. For a concise summary of the most common objections, see also Deane-Drummond, 1996, p. 4-7.

of view, ranging from strong anthropocentrism to radical ecocentrism. Some people could argue that human damage to nature is only minimal since the system takes care of itself anyway, which may foster a *laissez-faire* attitude (and a strong anthropocentric ethic). Others would argue that the survival of human beings is not of prime importance, but the survival of the earth's vital organs. Hence we should be focused on taking care of the tropical forests, prokaryotic bacteria, and algae. Deane-Drummond points out that the latter view has led some deep ecologists to argue for a **misanthropic ethic** wherein human beings are superfluous or even 'parasites' or like a 'cancer' on the planet.¹¹⁸ The point is that, whatever attitude people may base on the *Gaia* hypothesis, at least the founding father of the deep ecology movement and the advocates of the platform **emphatically**, and in spite of Deane-Drummond's allegations to the contrary, do **not** subscribe to either a strong anthropocentric or a misanthropic ethic. They also do not fit a similar allegation (with regard to the latter) made by Northcott:

"The implications of deep ecology's ecocentrism are various but followers of this philosophical approach believe that any human intervention in natural processes is fundamentally wrong, whether the destruction of the smallpox virus, the eradication of malarial mosquitoes or even the provision of food aid to famine victims. Nature knows best and nature should take her course."¹¹⁹

It is true that Naess welcomes the *Gaia* hypothesis as it may fill us with awe for the uniqueness of our planet and encourage people to take action to save what is still left of wilderness so that

¹¹⁸ Deane-Drummond, 1996, p. 13.

¹¹⁹ Northcott, 1994, p. 36: Reference is made to Marshall, 1992, p. 422.

speciation is allowed to continue.¹²⁰ But in my reading of Naess, I never came across the idea that we should not intervene. Rather, we should intervene mainly to satisfy **vital needs**. Furthermore, we have to remind ourselves that Naess does not hesitate to speak of the living earth, but the term 'living' is always used in a non-technical way to counteract an atomistic way of thinking, rather than to argue that the earth is a superorganism. Finally, we also have to recognise that Naess - while holding that all life is fundamentally one - values both cultural and natural diversity and argues that the individual is never submerged in a larger whole but remains relatively individual: is it not possible to accept that we are all one and yet different? The wider identification aimed at by self-realisation, then, neither absorbs nor disconnects nonhuman others from humans. When Naess recounts that he, as a small child, identified himself with the tiny animals that he found on the coast, he does not mean that he absorbed their otherness. Instead, he saw them as organisms with lives and goals of their own, independent of his. At the same time, he realised that they were not radically different from him.

Deane-Drummond and Northcott's remarks, however, may be more appropriately raised against the idea of the '**biotic community**' which is developed by another proponent of the ecocentric ecological ethic, **Jack Baird Callicott**, who has developed the land ethic that was originally proposed by Aldo Leopold.¹²¹ The central

¹²⁰ Naess, 1989, p. 138.

¹²¹ Leopold, 1949.

principle of this ethic is: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise".¹²² The land ethic is radically opposed to all forms of moral extensionism and thus rejects the view that more complex individuals have more moral significance. This is what biospheric egalitarianism could amount to when not only defended as a principle, but also taken as a practical guideline: if the stability of the ecosystem is endangered, psychologically complex individuals or sensitive ones such as deer and human animals may have to be sacrificed. This is, at the same time, its strength and its weakness. As far as its strength is concerned, the land ethic supports the intuition that many people have when they consider rare or endangered species or species with a vital function for the whole as more morally significant than species that are more common and less vital. The reason why endangered species are granted this status is because they contribute to the diversity of the ecosystem, where diversity leads to increasing stability.

If we now focus on the weaknesses of Callicott's views, we have to remark that it is not morally justifiable to sacrifice complex organisms under all circumstances for the stability of the biotic community. This may lead to what could be called **eco-fascism**, which is demonstrated by Callicott, where he argues that even abortion and infanticide would be acceptable because "the population of human beings should, perhaps, be roughly twice that

¹²² Leopold, 1949, p. 224.

of bears".¹²³ Although it goes without saying that a significant decrease of the human population is required, Callicott does not (want to) see that the reduction of the human population may be subject to other problems and methods than the reduction of the population of, for example, red deer in the Highlands of Scotland. We will return to this issue in the next chapter on weak anthropocentrism.

Further, it is not clear what is meant by the 'integrity' of the ecosystem, as ecosystems are always changing. Ecosystems are regularly shaken by many species before reaching new periods of stability. Hence, it is not clear how the criterion that Leopold and Callicott suggest can stop human exploitation. Moreover, some of the arguments that Callicott has pointed out elsewhere can be seen as justifying an exploitative attitude. This is so because he argues that "the boundaries of the moral community are generally coextensive with the perceived boundaries of society" which is illustrated by a quote from Darwin writing that a person "will risk his life to save that of a member of the same community, but will be wholly indifferent about a stranger".¹²⁴ This does not mean that we have to remain hostile towards those members whom we conceive to be outside our own group, as "the land ethic simply enlarges the boundary of the community to include soils, waters, plants, and animals, or collectively: the land".¹²⁵

¹²³ Callicott, 1983, p. 65.

¹²⁴ Callicott, 1993a, p. 115: Reference is made to Darwin, 1904, p. 111.

¹²⁵ Leopold, 1949, p. 204: Referred to in Callicott, 1993a, p. 116.

Yet Callicott does not make it clear how duties towards the wider community have to be balanced against duties towards humans, apart from saying: "Family obligations in general come before nationalistic duties and humanitarian obligations in general come before environmental duties. The land ethic, therefore, is not draconian or fascist".¹²⁶

This is the consequence of the fact that Callicott supports a **sociobiological view** in which human beings increase their inclusive fitness by widening the boundaries of their moral community progressively over time, such that ethical behaviour is triggered when someone is perceived to be part of one's community. Thus a layered structure of sub-units within one's community takes shape, like tree-rings, where "the duties correlative to the inner social circles to which we belong eclipse those correlative to the rings farther from the heartwood when conflicts arise".¹²⁷

The problem with this account is that, if the concerns of the inner circle outweigh those of the outer circles, then it is not clear how we can prevent the exploitation of the biotic community. Another reason why Callicott's account is faulty is that he claims ethics to have evolved because of its contribution to individuals' inclusive fitness and self-interest where "one can only secure self-interest by putting the interests of others on a par with one's own (in this case long-range collective human self-interest and the interest of other forms of life and of the biotic

¹²⁶ Callicott, 1993a, p. 127.

¹²⁷ Callicott, 1993a, p. 127.

community per se)".¹²⁸ The sociobiologists Sober and Wilson, however, have developed a convincing argument showing that altruistic behaviour has evolved by natural selection.¹²⁹ There is no reason why we should accept Callicott's assertion that self-interest is served by serving the interest of others. Are Greenpeace activists risking the sacrifice of life and limb for nonhuman animals out of self-interest?

Finally, Callicott derives, from the fact that ecology has shown the relationships between natural things, the conclusion that the 'biotic community' constitutes a whole to which we have duties, rather than only to its components. This view has been expressed very clearly by Rolston, who argues that the view that "only organisms are 'real', actually existing as entities" has to be abandoned for the view that "any level is real if it shapes behavior on the level below it", concluding:

"Thus the cell is real because that pattern shapes the behavior of amino acids; the organism because that pattern coordinates the behavior of hearts and lungs. The biotic community is real because the niche shapes the morphology of the oak trees within it."¹³⁰

¹²⁸ Callicott, 1993a, p. 131.

¹²⁹ Sober and Wilson, 1998, p. 302-304: Sober and Wilson argue that "evolution has influenced the set of desires that people have in such a way that parents typically want their children to do well", which does not mean that all parents have this desire, just like there may be babies who are born without opposable thumbs. The motives leading to parental care are - according to Sober and Wilson - at least partly altruistic and may overlap to a great extent the motives which provide the basis for the evolution of helping people who are not related biologically. The connection between the two has been shown in studies which show that the quality of the mother-child bond is of vital importance for the development of the child's prosocial behaviour at the later stages in life. Reference is made to Main & Kaplan & Cassidy, 1985 and Grusec, 1991, p. 9-33.

¹³⁰ Rolston, 1993, p. 151.

The problem with this view is that it ignores the important difference between cells and organisms on the one hand and biotic communities and ecosystems on the other hand: while the former constitute higher organisational levels from the parts that compose them and are characterised by individuality, the latter lack individuality and an unified centre of organisational activity.¹³¹ As we will argue more elaborately in chapter five (on weak anthropocentrism) it is therefore not justifiable to hold that biotic communities and ecosystems are direct objects of moral consideration.

4.4.4. 'Self-realisation!' and Death Anxiety

I will now address a criticism that can be raised explicitly against Callicott's emphasis on the whole and perhaps also implicitly against the few paragraphs where Naess speaks of an identification with the universe, and that has been addressed well by Zimmerman: "Why worry about losing one's own life, or even the whole earth, if one can identify with the immortal cosmic Whole?"¹³²

¹³¹ This distinction could only be blurred if ecosystems could be called superorganisms. Callicott has pointed out that Leopold played with this idea in an early essay where he conceives of "the earth's parts (...) as organs or parts of organs, of a *co-ordinated whole*, each part with a definite function", but that he abandoned this idea to a large extent in his later writings. Reference is made to Leopold, 1979, 139-140.

¹³² Zimmerman, 1994, p. 182; The reason why I write that this criticism may relate only 'perhaps' and 'implicitly' to Naess is because for him identification with the entire nature (for example in Naess, 1993b, p. 185, 186) is always counterbalanced by his view that we always value only individuals (see Naess, 1995b, p. 217). Naess also prefers the norm 'maximise self-realisation' above 'maximise symbiosis' because the latter "could be

Zimmerman has perceived not only that **wider identification** could lead to a **denial of death and evil**, but also that this denial is a widespread Western cultural attitude that shares part of the blame for our ecological crisis. With Rudolf Bahro, Zimmerman has seen better than Naess and most deep ecologists which obstacles are still present and prevent us from developing the wider identification that is characteristic of deep ecology. Zimmerman mentions that the twentieth century ecological and social disasters are attributed to outbreaks of irrational forces by those people who defend the rationality of modernity, while postmodernists contend that it is precisely modernity's allergy to otherness and its inability to tolerate difference that may be held responsible. Faced with these conflicting explanations, Zimmerman moves on to say that they

"may be reconciled by viewing them as different dimensions of widespread death denial. When the quest for a measure of control is warped by the irrational project of making mortal creatures immortal, dark consequences inevitably follow".¹³³

Bahro and Zimmerman identify the same major obstacle for developing an ecologically sane society: **death anxiety** and **death denial** are two sides of the same coin that accompanies the rise of increasingly **individuated forms** of consciousness. Both have dominated especially Western history for the past couple of thousand years and have manifested themselves over and over again in social authoritarianism and natural exploitation. The anxious ego creates an illusory security against death by exerting power

misinterpreted in the (...) direction of eliminating individuality in favor of collectivity" (Naess, 1993a, p. 209).

¹³³ Zimmerman, 1994, p. 58.

over nature and other people.¹³⁴ The fact that we use our brains to compensate for the insecurity that we have first projected upon ourselves, has been expressed well by Bahro:

*"Warum machen wir denn eigentlich einen so mörderischen Gebrauch von unserem Verstand? Offenbar konfrontiert uns das Selbstbewusstsein, die geistige Kapazität, die wir auf uns selbst richten können, mit unsere Erfahrung von Ohnmacht, Angst, Unsicherheit mit Projecten, uns darin zu verewigen, Denkmäler zu setzen."*¹³⁵

This works differently for men and women. In a patriarchal society, men can be more successful in denying their mortality. Since they do not participate in childbirth, lactation, and (to some extent) childcare, and can usually, even when they are older, continue to participate in activities that yield wealth or status, Zimmerman holds that magical thinking may persuade them for some time that they may not only be exempt from the origin of life, but also from the end of life. Women, on the other hand, are taught - in a patriarchal society - to think that beauty will make them desirable and well-protected against mortality. Zimmerman holds that in this way "men defend themselves against recognizing their mortality by projecting their own corporeality onto women", which may account for a phenomenon such as anorexia among women who seek the total disappearance of their bodies in order to "'be' without being objectified by the male gaze".¹³⁶ Bahro has seen clearly that this project is doomed to fail: "*Der männliche Logos*

¹³⁴ Zimmerman, 1994, p. 282.

¹³⁵ Bahro, 1991, p. 54.

¹³⁶ Zimmerman, 1994, p. 282; A similar theme, the connection between an emphasis on the transcendence of God in Western Christianity and a male flight from dependence upon matter and *mater* or mother, has been documented in Ruether, 1975 and 1992.

steuert zum Tode".¹³⁷

Deep ecologists have to be aware of this as they - in the words of Zimmerman - "seem to be walking a tightrope across an abyss: slipping to the right may plunge them into an antimodernist ecofascism; slipping to the left may lead them to reinforce modernity's control obsession".¹³⁸ Indeed, both an antimodernist ecofascism and a control obsession can be seen as the possible outcomes of death anxiety. Ecofascism or an identification with the whole is a desperate way to forget about one's individual mortality by denying one's individuality, while a control obsession is another desperate way to forget about one's individual mortality by subjecting all others to the fortification of one's individuality. If self-realisation becomes part of yet another modern grand narrative in which people are portrayed as reaching out to outer space, this may well lead to a loss of a sense of limitation and a denial of ageing, evil, and death.¹³⁹

Both Bahro and Zimmerman have been influenced strongly by the work of **Ken Wilber**. Wilber argues that cosmic history is a process that involves a stage wherein the All empties itself (Big Bang) and a stage wherein it rediscovers or remembers itself through a long evolutionary process in which it generates self-conscious life.¹⁴⁰ Influenced by the work of Jean Gebser (who developed a

¹³⁷ Bahro, 1987, p. 159.

¹³⁸ Zimmerman, 1994, p. 90.

¹³⁹ Zimmerman, 1994, p. 97-98.

¹⁴⁰ Wilber, 1983, p. 11, 21.

psychodynamic theory of development in the school of Carl Gustav Jung), Wilber contends that human consciousness has evolved over four consecutive levels.¹⁴¹

The first is the level of the earliest hominids, the uroboric level of unself-conscious archaic humanity which appeared roughly 6 million years ago. This can be symbolised by a snake biting its tail, which relates to the narcissistic structure of human consciousness. This structure is suggested by stories such as the garden of Eden, a time before the separation.¹⁴² Bahro summarises that this is the level

*"wo der Mensch sich mit dem ganzen kosmischen Zusammenhang noch ungefähr so verbunden fühlt, wie das für kleine Kinder charakterisch ist. Die unterscheiden nicht von vornherein aussen und innen. Die Mutter ist doch auch eine innere Instanz, neben dem andrängenden Erbe."*¹⁴³

The second level is the magical-typhonic level of the awakening of self-consciousness in pre-agricultural tribes (starting with the earliest *Homo Sapiens* about 200,000 years ago). It can be symbolised by a Greek titan, where Wilber has chosen Typhon (according to legend the youngest child of the Earth Goddess Gaia). At this level people became aware of the fact that they lacked the fusion with the Atman or Spirit. This is the stage where the body is differentiated from the environment (but not yet from the mind) and where people identify with objects in their

¹⁴¹ See for example Gebser, 1966.

¹⁴² Wilber, 1983, p. 22-23: For Wilber's use of 'uroboros' reference is made to Neumann, 1973.

¹⁴³ Bahro, 1991, p. 132.

environment to project power onto them or to gain power from them.¹⁴⁴

The **mythic-membership** level started about 12,000 years ago: it was attained by increasingly self-conscious people who were still strongly identified with their group. People started living in the cities of ancient China, Egypt, and Babylonia. The city wall protected and separated people from nonhuman nature. Gods and Goddesses took up the place of the titans, as they represented more abstract natural and social powers. In this period, the Great Mother or early humanity's conception of 'Mother Nature' was worshipped. The Great Mother - the procreator and the destroyer - was worshipped and placated by the making of sacrifices of blood (as blood was considered to be vitally important for procreation: the menstrual blood stops flowing during pregnancy).¹⁴⁵

Finally, the **mental-egoic** constitutes the **fourth** level which is also called the level of the solar ego. According to Bahro, this is the level at which the ego wants to ride its body like a horse.¹⁴⁶ After an initial period in which the Great Goddess was worshipped, as an individuated and transcendent deity, the period of the Great Father appeared. It started to manifest itself with the Egyptian kings around 2500 B.C. who thought that they were immortal sun gods. The people identified with the king's alleged

¹⁴⁴ Wilber, 1983, p. 39, 43.

¹⁴⁵ Wilber, 1983, p. 87-92, 128-129, 151-160; Bahro, 1991, p. 240.

¹⁴⁶ Bahro, 1987, p. 274-275; Bahro, 1991, p. 242, 255-256.

immortality to gain security. It was the terror of individuation that led men to move on to project a Father God who was all-powerful, other-worldly, and separate. Due to the rise of patriarchy, mental-egoic consciousness has been restricted mostly to men. This occurred because men reserved the realm of culture for themselves as they associated women more with the natural processes of menstruation and childbirth. The fact that men had easier access to cultural activities favoured their development in the mental-egoic direction with the associated dissociation from everything that reminded them of their dependence: from the Great Mother, from women, from their bodies, and from nature, which resulted in the suppression of women.¹⁴⁷ Or in the words of Zimmerman: "Worshippers of the 'jealous' Father God destroyed the temples and killed the worshippers of the 'false' deities, the Great Mother and the Great Goddess".¹⁴⁸

The four phases also correspond to the four phases of **ontogenetic** human development: infancy, early childhood, adolescence, and adulthood. This evolution has resulted in a growing death anxiety. Yet there is no way back to the origin. Rather, these four levels have to be integrated or *aufgehoben* in a higher, **transpersonal** or '*centauric*' level which is characterised by nondualistic consciousness.¹⁴⁹ If we want to go back to earlier levels, we commit the **pre-trans-fallacy**: some people who cannot stand living on the mental-egoic level fall back into a pre-personal level rather than make the step towards a transpersonal level.

¹⁴⁷ Wilber, 1983, p. 179-191, 212.

¹⁴⁸ Zimmerman, 1990, p. 144.

¹⁴⁹ Wilber, 1983, p. 260.

Destructive personal relationships are the outcome on an individual level, while on a social level this may lead to the success of authoritarian political regimes.¹⁵⁰ We have to realise that there is no way back to some sort of original paradise. The eating of the apple by Adam and Eve in the Biblical narrative in Genesis 2 and 3 is not interpreted as a fall by Wilber, but as a crucial step in the long evolutionary process that leads back to the Absolute. It was the beginning of our journey 'up from Eden'. The problem is that only very few people are prepared to go up, while the majority engage in 'Atman projects' or the attempt to deny death.¹⁵¹ Or in the words of Wilber:

"Because man wants real transcendence above all else, but because he will not accept the necessary death of his separate-self sense, he goes about seeking transcendence in ways that actually prevent it and force symbolic substitutes."¹⁵²

This is done largely subconsciously and instinctively by feeding and the consequent forgetting of the reality of time in level one, by the use of magic to ward off death in level two, by arranging "the *substitute* sacrifice of actually killing somebody else, thus acting on, and appeasing, the terrifying confrontation with death and Thanatos" in level three, and by the attempt to turn the

¹⁵⁰ Wilber, 1983, p. 323; Zimmerman, 1990, p. 144-145; Berman, 1989: Morris Berman has argued that National Socialism was one of a manifold of Western social movements that was inspired by the human desire to overcome the complications of everyday life and that led to the identification with the immortal blood that dwelled in the *Volk*.

¹⁵¹ Wilber, 1983, p. 64-68, 293-294.

¹⁵² Wilber, 1983, p. 13, p. 59: This is tragic as the Atman project is "driven by a *correct* intuition that one's deepest Nature is indeed infinite and eternal, but an intuition that is corrupted by its application to the separate self, which is absolutely finite and mortal".

mortal ego into the eternal Atman at level four.¹⁵³ The ego can be protected in numerous ways: by exploiting others (humans and nonhumans), warfare, accumulating wealth, Zimmerman puts it baldly: "... so long as people require immortality symbols, wealth, status, and violence will continue to be popular."¹⁵⁴ Wilber, Zimmerman, and Bahro agree with the feminist view that it is not necessary to pass through stage four before arriving at stage five. Although the Great Mother era has to be transcended, the violent patriarchal **dissociation** from the Great Mother does not have to be a necessary part of this process. That is why women will perhaps reach stage five more easily, since at least some of them may - unlike men - never have been dissociated (as much) from nature, emotions, and the body, or more generally: from everything that reminds the ego of its mortal status. Wilber maintains, contrary to Freud and Adorno, that the person is not constituted by such a radical dissociation and repression, but rather by its integration.¹⁵⁵ The ecological crisis results from the fact that patriarchal men did not simply **differentiate** the mental ego from the body, nature, and emotions, but **dissociated** themselves from this realm of the Great Mother.¹⁵⁶ This process

¹⁵³ Wilber, 1983, p. 13, 62, 66, 154 (quote).

¹⁵⁴ Zimmerman, 1994, p. 107.

¹⁵⁵ Wilber, 1983, p. 187-189, 231, 333.

¹⁵⁶ Wilber, 1983, p. 183-189; Postmodern theorists aver that the dissociation is inevitable and insurmountable. Slavoj Zizek, arguably the most prolific Lacanian philosopher, warns against the danger of totalitarianism that is connected with people who do not want to accept their fissured condition. See Zizek, 1990, p. 5. Zimmerman, 1994, p. 213: Zimmerman comments in response to Zizek, in a Wilberian mode, that Zizek does not see that "the problem is *not* the yearning to end dualism, but rather seeking to do so *inappropriately*" and thinks it is inappropriate to

has been summarised well by Zimmerman:

"Only by the matricidal act of slaying the beast (representing the Great Mother) does the hero achieve individuation. The fierceness of the ego's repression of the female, the bodily, and the natural is directly proportional to the ego's recognition of its ultimate *dependent* status. But the anxious ego finally claims to be independent of everything, including the Divine. The ego in effect declares itself to be God".¹⁵⁷

Faced with the fact that this project is doomed to fail, Zimmerman holds - following Wilber - that "the task facing women and men today is to develop a nonpatriarchal, nonmatricidal version of individuation" and the "concept of a postpatriarchal God/dess".¹⁵⁸

Some deep ecologists have problems with these ideas, especially with Wilber's idea of the Great Chain of Being: a teleological universe where human beings are situated close to the top and other species further down. This idea is dismissed as anthropocentric by Devall and Fox. The same verdict has been pronounced by Devall with regard to the idea that there are

regress to an earlier stage, but possible to end dualism by entering a new stage. Zimmerman, 1994, p. 223-224: The whole of postmodern theory (Derrida, Foucault, Lacan, Zizek, ...) may be seen as a predictable response to "the demise of the immortality symbols of mental-egoic consciousness: purposive history, subjective selfhood, unending material progress, and the conquest of nature that promised to vanquish death itself. Though able to see through these symbols, postmodern theorists have not made the transition to level five consciousness. Hence, the gap between their personal behavior, which continues to be self-assertive and self-interested, and their theories about the death of the authorial 'subject'. Furthermore, the fact that postmodern theory generally exhibits little concern about nonhuman beings and tends at times to portray nature as a human construct indicates that the dissociative and anthropocentric tendencies of level four consciousness persist in postmodern theory, despite its rhetoric about affirming 'difference'".

¹⁵⁷ Zimmerman, 1990, p. 145.

¹⁵⁸ Zimmerman, 1990, p. 148, 153.

developing stages of human consciousness. With La Chapelle and other deep ecologists he prefers a cyclical or flowing sense of time that is a reminder of the seasonal cycles of the hunter-gatherer lifestyle.¹⁵⁹ Other deep ecologists are more positive. I share Zimmerman's suggestions that linear teleology may not easily be dismissed if we want to recognise meaning in the cosmos and that, in fact, deep ecologists must agree that at least **some** progress can be made. Otherwise their ethical concern for nature and their sympathy for a maturation of human consciousness in the direction of an increase in self-realisation remain inexplicable. Besides, Wilber does not share the idea that has inspired so many modern revolutions and proved to have such disastrous consequences, namely that the transition can be realised right here and right now. On the contrary, he is convinced that it could take many centuries before nondual awareness will be realised by more than a few.¹⁶⁰ What I am wary of, however, is another aspect that may be connected to Wilber's idea of the Great Chain of Being: the suggestion of a monistic universe wherein evil is absorbed into the greater good.

In spite of this and if I understand Zimmerman correctly, it is true that deep ecologists - and ecological ethicists in general - may come to a better understanding of self-realisation if they incorporate Wilber's idea that it is precisely our death anxiety that can be overcome by a process of maturation (either by

¹⁵⁹ Zimmerman, 1994, p. 209: Reference is made to Devall, s.d.; La Chapelle, 1988.

¹⁶⁰ Zimmerman, 1994, p. 209-210.

arriving at the next stage within the development of consciousness or by Self-realisation). Deep ecologists may benefit greatly from Wilber's transpersonal psychology if they realise that their optimism with regard to self-realisation is always threatened by a negative shadow side of regression of which evil, death and stagnation are the consequences. A correct understanding of self-realisation can, however, reveal - according to Zimmerman - that self-realisation is neither passivism nor activism, but something in between. If self-realisation was activist, the subject would gain control and the dangers of egoism and National Socialism or ecofascism would lurk in the background. If it was passivist, it would be irrational and the same danger of ecofascism could emerge. As we mentioned earlier on, Zimmerman has pointed out that the deep ecologists' self-realisation has a lot in common with the Heideggerian notion of *Gelassenheit*, which refers to our capacity to allow things to reveal themselves as they are rather than according to the way they may be presented by the categories imposed by the human subject.¹⁶¹

Zimmerman has welcomed the proposal of the Buddhist deep ecologist, Joanna Macy, who argues that the solution of our anxiety lies in the recognition of the radical emptiness of all things, including the ego, which means "neither smashing nor despising the ego, but rather disclosing its insubstantiality" because:

"No one and no thing is radically other. Although dualism vanishes, the result is not pathological or regressive merging of self and other, but rather a higher order

¹⁶¹ Zimmerman, 1994, p. 112, 132.

affirmation of relationships at all levels."¹⁶²

4.4.5. Biospherical Egalitarianism and the Solving of Moral Conflicts

What remains the case is that the biospherical egalitarianism flowing from self-realisation or wider identification does not provide a clear account of **how to solve conflicts** between different entities' strivings for self-realisation. This is the **most challenging critique** for deep ecology.

This lack of interest in the establishing of hierarchies has been expressed as follows by Zimmerman:

"The view that humankind has attained a higher capacity of awareness suggests that in some respects humans are more important than other creatures, a view regarded by deep ecologists as unjustifiably anthropocentric."¹⁶³

However, Naess has admitted that biospherical egalitarianism "does not imply that one acts, wishes to act, or consistently can act in harmony with the principle of equality".¹⁶⁴ Indeed, deep ecologists only support 'biospherical egalitarianism in principle'. With regard to this abstract term, Naess has said that it should not be seen as the label of an established doctrine, but rather as the expression of an intuition which counteracts "the self-congratulatory and lordly attitude towards those beings which may seem, to some people, to be less developed, less

¹⁶² Zimmerman, 1994, p. 315-316: No reference provided for Macy.

¹⁶³ Zimmerman, 1994, p. 80.

¹⁶⁴ Naess, 1989, p. 174.

complex, less beautiful, or less miraculous".¹⁶⁵

Yet Naess has recognised relatively recently that deep ecologists have not given a satisfactory solution to the problem of how to solve conflicting interests.¹⁶⁶ And in an even more recent article, he has finally tackled the problem:

"The greater vital interest has priority over the less vital. And the nearer has priority over the more remote - in space, time, culture, and species. Nearness derives its priority from our special responsibilities, obligations, and insights as humans among humans."¹⁶⁷

Apart from the nearness we feel to different beings, differences in the **capacity to suffer** and the **amount of suffering** are also ethically important. In the attempt to solve conflicts of interests, Naess has also pointed out that the relevance of **cultural differences** has to be taken into account.¹⁶⁸

It remains true that little or no attention is paid to the solving of conflicts between serious human interests and vital nonhuman interests, and between beings that we feel nearer with and animals that have a higher capacity to suffer than these. Another problem is the problematic, subjective nature of the criterion 'felt nearness'.¹⁶⁹

This is precisely why Fox has argued that personally based

¹⁶⁵ Naess, 1995f, p. 223.

¹⁶⁶ Naess, 1992, p. 110.

¹⁶⁷ Naess, 1995f, p. 222; Naess, 1993a, p. 205.

¹⁶⁸ Naess, 1995f, p. 223-224.

¹⁶⁹ It is worthwhile to note that proximity has also been important for Christian ethics. The parable of the merciful Samaritan, for example, illustrates our special responsibility to those who are near.

identification is too limited and problematic. Yet his preference for cosmologically and ontologically based identification may also be subjected to criticisms. Plumwood, for example, has criticised Fox' negative attitude towards personally based identification and preference for cosmologically based identification because it betrays a rationalist, universal, and impartial Western logic which denies the otherness of the concrete, particular beings which we encounter.¹⁷⁰ A similar critique has been raised against Naess by Northcott, who argues that his "monistic conception of the cosmos" resembles the abstract forces that are mobilised in the global economy by "its degree of abstraction from the relational and personal character of human life and traditional interactions with nature".¹⁷¹ Instead, Northcott values 'nimbyism' ('not in my back yard-ism') and personal identification as "people no longer trust the universalising ethic of the trader, the miner, the accountant, the planner and the government lawyer to protect their local environment" and personal elements are vital in the construction of one's identity as it is precisely the "abstract and distant character of the (monetary) forces" which results in environmental degradation.¹⁷² But what is overlooked here is that identification is always personal for Naess, perhaps not so for Fox, and that identification always starts with one's nearest and extends outwardly. Naess writes, for example, that

"from identifying with 'one's nearest', higher unities are created through circles of friends, local communities, tribes, compatriots, races, humanity, life, and

¹⁷⁰ Plumwood, 1995, p. 163.

¹⁷¹ Northcott, 1996, p. 120.

¹⁷² Northcott, 1996, p. 118-119.

ultimately, as articulated by religious and philosophical leaders, unity with the supreme whole, the 'world' in a broader and deeper sense than the usual."¹⁷³

There remains, however, a tension between the concrete commitments we have to care for our immediate environment and our responsibility for a more impersonal and distant environment. In spite of this, what remains of fundamental importance is the deep ecological view that we can feel near or identify with everything (even things far away), and that the development of this wider identification is of ultimate significance, especially since a lot of environmental problems are long-term and global issues. An attitude marked by 'nimbyism' could lead to a more efficient spreading out of waste products, rather than to a more caring attitude.

But care for particular and concrete things does not have to exclude a more impartial universal concern. Seyla Benhabib, for example, has advocated an **interactive universalism** that "acknowledges that every generalized other is also a concrete other".¹⁷⁴ In this way, we can value the universal and impartial demands of justice, while at the same time seeing that the universal other appears in concrete others who are irreducibly different from ourselves and whose otherness may not be denied.

Another criticism addressed at deep ecology's biospherical egalitarianism has come from the side of the **social ecologist Murray Bookchin**. Social ecologists regard the ecological crisis primarily as the outcome of distorted social structures. Rather

¹⁷³ Naess, 1985, p. 263.

¹⁷⁴ Benhabib, 1992, p. 165.

than treating social and ecological problems equally, which is suggested by the notion 'biospherical egalitarianism', Bookchin argues that priority should be given to finding solutions to our social problems, rather than to our ecological problems. Bookchin makes the valid point - perhaps overlooked by deep ecologists - that it is not humanity in general, but specific social groups which are ruining the planet. Bookchin fulminates against authoritarianism and hierarchical social structures and sees (without convincing evidence) the rise of social hierarchy as intimately connected with the emergence of capitalist competition for a limited amount of resources. Such structures result in the exploitation of groups of human beings by others, and it is the social domination of one group by another which eventually led to the mistreatment of nature. This is why Bookchin writes that "the *idea* of dominating nature has its primary source in the domination of human by human".¹⁷⁵

Yet Zimmerman has suggested (again without clear evidence) that it could rather have been the increasing objectification of nature which gave rise to social hierarchy and, eventually, to capitalism, and that one could also accept a dialectical view in which the domination of some humans by others and the objectification of nonhuman nature were historically intertwined.¹⁷⁶ The increasing objectification of nature is, as we pointed out before, the result of increasing death anxiety which accompanies the process wherein the ego starts to recognise its radical separateness. The ego defines itself increasingly as a subject

¹⁷⁵ Bookchin, 1993, p. 365.

¹⁷⁶ Zimmerman, 1994, p. 156-160.

standing over against the objective world, providing itself an illusory sense of security by exploiting or objectifying the world. This is why we have to be careful. Bookchin's dream of an egalitarian world will remain attractive, but also illusory as long as people remain embedded in Wilber's fourth level and hence want to accumulate more immortality symbols (in the form of status, power, looks, education, money, and so on) than others. So the end of capitalism as a social structure may not result in the end of the ego's quest for immortality. This is why we should give priority to tackling the latter. As a spiritual movement is required in order to do so, people may recognise that such a movement is what may be the objective of deep ecology's wider identification, which is also suggested by the word 'biospherical egalitarianism'.

Bookchin has also reproached ecologists who are not social ecologists for giving the preservation of wildlife priority over issues concerning social justice.¹⁷⁷ However, Naess has remarked that it is not the case that deep ecologists are more concerned about wilderness than about the needs of poor people.¹⁷⁸ With deep ecologists we could reply to Bookchin that ecological issues and social issues have to be resolved together as they are often intertwined. An example is the increasing use of arable soil in 'third world' countries for the production of crops which are exported to 'first world' countries, which causes both ecological damage and social inequality. In this context, Zimmerman has pointed out rightly that the conservation of nature is not only

¹⁷⁷ Bookchin, 1993, p. 354-355.

¹⁷⁸ Naess, 1995k, p. 399.

a matter of concern for the 'first world', but that especially women in the 'third world' are founding movements to protect nature as they are aware that they are part of a larger whole which is being harmed by industrialisation, overpopulation, and social and economic injustice. Zimmerman adds to this the important observation that "without the possibility of experiencing wild nature, people would have fewer chances to identify with nonhuman life and thus fewer opportunities to develop a deep ecological attitude."¹⁷⁹ The reason why this is so important relates to the fact that the wider identification which is aimed at by deep ecologists can only develop if people have the opportunities to enjoy nature. Without these opportunities, we will not develop the required attitude which also affects the way we relate to other people. This shows the gravity of the situation: if we do not develop a less anthropocentric attitude, we may not only continue destroying nature, but also continue supporting social injustice!

4.4.6. A Critique of Naess' Eclecticism

Deep ecology's eclecticism and its openness towards diversity and pluralism could be understood by postmodernists as a justification of the idea that 'anything goes', which amounts to relativism or

¹⁷⁹ Zimmerman, 1994, p. 170; Naess, 1995i, p. 451: This is the context in which we have to understand Naess' remark that children should have access to free nature, not just to parks; Naess, 1995k, p. 399: More generally, Naess advocates that we should live in a *Gemeinschaft* (organic community) rather than a *Gesellschaft* (corporate organisation). Yet Naess recognises that this is a huge problem as he simultaneously stresses the need for urbanisation. Presumably he comes to this conclusion by realising that wildlife is under threat by the steady increase of the world population.

nihilism. Indeed, not everything goes and that is why deep ecologists have to remind postmodern theorists that not only human 'others', but also nonhumans, were suppressed by modernity's totalising logic of identity.¹⁸⁰ This shows that deep ecology's openness towards a multitude of different traditions does not centre around a multitude of objectives, but around **one goal**: breaking down strong anthropocentrism.

We have mentioned four important sources on which Naess draws for his ecosophy. Other deep ecologists have developed their views also by picking out bits and pieces out of a wide variety of materials and traditions such as Asian religions, Heidegger, Whitehead, and the views of primal peoples (especially Native Americans).¹⁸¹ This may be regretted by those people who think that the different traditions are not valued for what they are when integrated in deep ecology. In this context, Zimmerman has remarked:

"Deep ecology's eclecticism might seem similar to the pastiche style of postmodern architects who -influenced by electronic media that have made virtually every historical tradition available for consumption - ransack the building style of previous epochs for new vocabulary in order to add historical 'density', playfulness, and irony to their structures."¹⁸²

I think it is important to see that the charge of eclecticism that has been made with regard to deep ecology has been reacted to by Naess in a convincing way. Naess stresses the fact that the

¹⁸⁰ Zimmerman, 1994, p. 97-98.

¹⁸¹ Zimmerman, 1994, p. 19; Devall and Sessions, 1984, chapter 6.

¹⁸² Zimmerman, 1994, p. 20.

platform is general enough so that a manifold of different philosophical and religious views can agree with it as a common basis. This makes the deep ecology movement something different from his personal view that is espoused in ecosophy T.¹⁸³ Further, pluralism has to be valued as Naess shares the postmodern trait of being wary about totalising narratives and holds that we have had enough of *Gleichschaltung* and monolithic ideologies in both European and world history.¹⁸⁴

Yet we also have to mention that, in spite of deep ecology's inherent pluralism, most deep ecologists in fact do support Naess' norm of self-realisation. This may be hidden by the platform.¹⁸⁵ What is puzzling is that Naess seems to be happy about this concealment. He remarks that Fritjof Capra wanted to include the value of interdependence or what Naess calls the "all things hang together" theme in point two, but Naess does not feel the need to do so. While acknowledging that supporters of the platform do "talk about" (...) "nature mysticism (the ultimate unity of all living things)" he thinks it "has no place among views which supporters may have *in common*".¹⁸⁶ This is strange, given the value of this theme for Naess, but understandable. Considering Naess' openness towards a plurality of views, it may not surprise us that he moves on to argue that "fortunately other supporters

¹⁸³ Naess, 1993a, p. 198-200.

¹⁸⁴ Naess, 1992, p. 108.

¹⁸⁵ See Zimmerman, 1994 and Fox, 1990; Zimmerman, 1994, p. 25: The link between the platform and ecosophy T becomes clearer when we see that complexity and symbiosis (mentioned in ecosophy T) are crucial for the enhancement and persistence of a richness and diversity of life forms (second point in the platform).

¹⁸⁶ Naess, 1995b, p. 215.

have different ecosophies" and that, since not all people may be happy with his central norm of 'Self-realisation', it cannot be part of the platform.¹⁸⁷ Yet since most supporters of the deep ecology movement in fact do support Naess' ecosophy, Fox has suggested replacing the name 'deep ecology' by 'transpersonal ecology'. This should not surprise us, given the fact that Naess has written elsewhere that "the main driving force of the Deep Ecology movement (...) is that of *identification* and solidarity with all life".¹⁸⁸ This may explain why an alternative proposal has been made by Zimmerman: he refers to the supporters of the platform by 'deep ecology movement' and to the adherents of ecosophy T by 'deep ecologists'.¹⁸⁹

4.5. Deep Ecology Reassessed

At the outset of this chapter, we mentioned that one critic accused deep ecology of subordinating human beings to natural processes, another of elevating human beings to a God-like status. I hope that this section has made it clear that the consciousness change that is sought by deep ecologists leads **neither** to earth worship **nor** to strong anthropocentrism.

Nevertheless, the name 'deep ecology' has been associated with a radical ecology group called 'Earth First', cofounded by Dave Foreman after having resigned his position as Washington lobbyist for a national environmental group. Zimmerman has contended that

¹⁸⁷ Naess, 1995b, p. 215.

¹⁸⁸ Naess, 1995i, p. 452.

¹⁸⁹ Zimmerman, 1994, p. 22.

surely not all deep ecologists would support the acts of civil disobedience in the form of 'ecotage' (sabotage of tools used for damaging wilderness, especially for chopping down forests) that have been committed by members of this group. We have to remind ourselves that - although Naess has committed acts of public disobedience (such as the damming of a Norwegian river) - Naess insists on the development of theory as part of a process of continuous self-criticism and on nonviolent action.¹⁹⁰ Following Zimmerman

"it is advisable to distinguish between deep ecology theory and its propagandistic application by nonphilosophers with little concern for nuanced expression. Failure to make such a distinction has led critics wrongly to link deep ecology theory with racist, sexist, and misanthropic remarks made by a handful of Earth First! activists."¹⁹¹

In spite of my enthusiasm for many aspects of the deep ecology movement, I do not embrace all the objectives of this movement for the reasons pointed out in this critical review. The basic problem with all ecocentric ecological ethics is that they do not propose **satisfactory solutions to moral conflicts**: if human beings ought not to be anthropocentric, should we sacrifice ourselves when we encounter a hungry bear? Another problem with ecocentrism (as with the other models presented before) is that no clear definition is given of what is meant by the notion 'intrinsic value'. How do we determine the value of things which do not have instrumental value for us?

These problems will be resolved in the next chapter where we will develop a proposal for a weak form of anthropocentrism, which will

¹⁹⁰ Zimmerman, 1994, p. 31.

¹⁹¹ Zimmerman, 1994, p. 31.

be defended by looking back upon the approaches presented in the preceding chapters.

Volume Two

Chapter Five: A Proposal For a Weak Form of Anthropocentrism

5.1. The Basic Elements of Weak Anthropocentrism

Having described the model of strong anthropocentrism, it might surprise some that I, as an ecological ethicist, still dare proposing anthropocentrism, albeit a weak form. Much to my own surprise, I found support for my proposal in the work of, again, the deep ecologist Arne Naess. Against the background that it is a specifically **human** task to protect the planet as a whole and for its own sake, he thinks the terms 'homocentrism' and 'anthropocentrism' which have been used so often in a derogatory way, should be qualified by an adjective, 'narrow homocentrism', and so on.¹ This suggests that he acknowledges a form of anthropocentrism that is not narrow (and which may, perhaps, point in the direction of deep ecology?).

In my opinion, there are at least two reasons why weak anthropocentrism is legitimate.

First of all, weak anthropocentrism is justified by the fact that human beings may be almost the only species capable of being moral subjects.

Apart from our being (more or less exclusively) moral subjects, there is also a sense why we should be the most important objects of moral consideration. This is pointed out well by Murdy, who has justified weak anthropocentrism by appealing to Darwin, who wrote:

¹ Naess, 1989, p. 141.

"If it could be proved that any part of the structure of any one species had been formed for the exclusive good of another species it would annihilate my theory, for such could not have been produced through natural selection."²

From Darwin's observation that species exist because they have succeeded in their attempts to survive and reproduce, Murdy draws the conclusion that "it is proper for men to be anthropocentric and for spiders to be arachnocentric", and so on.³

However, Murdy and strong anthropocentrists in general overlook the fact that, even if we grant that only human beings can reasonably be called 'moral subjects' and the most significant moral objects, this does not mean that only humans can be moral objects. This would be tantamount to holding that a human being would only have direct duties towards himself or herself and towards other human beings, which must be objected to. In my opinion, **strong anthropocentrists** or **radical speciesists** hold unjustifiably that the fact that one is capable of fulfilling duties (that is: to be a 'moral subject') is a necessary condition to acquire either rights or moral consideration in itself (that is: to be 'moral object').

5.2. Weak Anthropocentrism and the Moral Recognition of Pre-moral Teleological Capacities in Nonhuman Entities

Even if we would accept one of the reasons which strong anthropocentrists purport to justify their views, the idea that only

² Murdy, 1983, p. 13: Reference is made to Darwin, 1872.

³ Murdy, 1983, p. 13.

humanity has the capacity to create or envisage purposes consciously, this does not justify the position that the entire universe therefore should be teleologically subordinated to and directed towards hu(man)ity, and therefore should entirely be at his disposition.⁴ As we shall see in part three, Whitehead and Griffin have argued convincingly that all actual entities display a relative degree of teleology or purpose. There is a self-organising potentiality or a capacity to generate novelty in everything. We can no longer conceive of the emergence of human self-consciousness as an abrupt divine inflation at the moment the first man or woman appears, but have to accept that there are vestiges or precursors of this human feature in nonhuman nature. While the presence of teleology may, within the ape-line, culminate in human self-consciousness, this teleological tendency is also developed strongly in some other animals, especially those with a sophisticated consciousness. Roughly speaking I think we could also say that these teleological tendencies are synonymous to what Birch and Cobb, following Whitehead, call 'capacities for richness/greatness of experience'.

According to Whitehead, "the teleology of the Universe is directed toward the production of Beauty", where Beauty is "the mutual adaptation of the several factors in an occasion of experience".⁵ Thus beauty coincides with the prehensive act, which is also

⁴ Of course we do not even accept this idea, as primatologists, for example, have ample evidence in support of the view that many nonhumans envisage purposes consciously.

⁵ Whitehead, 1933, p. 324, 341.

called self-enjoyment.⁶ As such, it defines all actual occasions equally. Apart from this, Whitehead also uses the word 'beauty' in a more specific sense, to indicate the growth in complexity over a succession or society of occasions.⁷ This is why those actual occasions that achieve higher degrees of complexity may properly be called more beautiful. It thus becomes an evaluative concept.

The question we have to address now is whether or not it is justified to attribute moral relevance to the presence of teleology in nature. In a Whiteheadian account, for example, the norm to "maximize the intensity of beauty" has been proposed as a moral principle.⁸

Some ecological ethicists use differences in teleological capacities as the sole criterion for solving interspecific and intraspecific conflicts. People who defend a position similar to Van de Veer's, for example, would argue that if we have to do one or another important medical experiment, it can even be justified, in a case where we have to choose between the life of a healthy chimpanzee and the life of a handicapped person with less 'teleological capacities' or 'capacities for richness of experience', to sacrifice the life of the latter. One could even go further and attribute more moral significance to those human beings who possess the most developed capacities for richness of experience. This is one of the major obstacles for **two factor**

⁶ For the meaning of the 'prehensive act' and the 'occasion', see part three, chapter two, section two.

⁷ Whitehead, 1978, p. 100.

⁸ Kerr, 1995, p. 84.

egalitarianism, and Van de Veer is well aware of that, since he states: "The worry is, generally, that a tempting basis for making interspecific discrimination entails possibly counter-intuitive results with regard to intraspecific discrimination."⁹

Indeed, the psychological capacities of human beings vary quite a lot. The question rises, then, if we should therefore attribute moral significance according to the relative psychological capacities humans possess, when the same (basic, serious, or peripheral) interests are at stake? Van de Veer solves this problem by regarding psychological variety up to a certain level as morally insignificant. Below a certain threshold it becomes significant, so that certain forms of intraspecific discrimination are justifiable, while others are not. One has to take into account the sort of differential treatment intended and the difference it would make with regard to the prospects for satisfaction or dissatisfaction of the beings concerned. An example he provides is to withhold money for university education from a child with IQ 120 to the advantage of a child with IQ 140, which is unjustifiable. But it would be justified to withhold money for the same purpose from a child with Down's Syndrome.¹⁰

Van de Veer should have complicated things further: what if we have a fixed amount of money to spend on either a healthy child or a child with Down's Syndrome? His 'two factor egalitarianism' would not object to ignoring the latter. Such inhumane conclusions

⁹ Van de Veer, 1986, p. 62.

¹⁰ Van de Veer, 1986, p. 62-63.

are only avoidable if we conceive of psychological capacities (Van de Veer) or the 'capacity for richness of experience' (Birch and Cobb) as important criteria to define the value of a species and compare with the value of **another** species, but not to compare individual **members** belonging to one or different species with one another. In other words: if humanity, considered as a species, possesses a higher capacity for richness of experience than any other species, then **all** people, including those who have a smaller capacity for richness of experience than certain animals, are given more moral weight than members of other species. The same holds for animals, plants, and inorganic entities. Because of the fact that some species or classes possess a higher capacity for richness of experience than other species or classes, all members of their species or class, even those who do not have the same capacities as their species or class members, are granted more moral significance. In a subtle way, this view assigns differential moral significance to the pre-moral value of the 'capacity for richness of experience' that marks the **average member** of the species to which an individual belongs. The question whether or not a particular individual has a higher or a lower level than its average species member is not taken into consideration.

Burms, however, proposes a different view, based on personal acquaintance with the difference of the other:

"Our moral concern for certain concrete others precedes any judgment about the characteristics those others ought to possess if they are to make a claim on our concern. Our moral concern is directed at concrete

others, not at some universal essence".¹¹

In Burms' view, average pre-moral values, defining some universal essence of a species or class, are simply irrelevant. We do not value abstract states of affairs (for example: richness of experience), but concrete others who are near and dear. Burms' view explains well our intuition that it may not be unjustifiable that some people care more about severely handicapped people whom they know than about more 'normal' people whom they do not or hardly know. For him, morality is based in the concrete and particular relations that we have with others. Burms argues that we respect those who are near to us not because we can identify with some characteristic that we feel like valuing, but because they always transcend the image that they leave within us. In his view, it is this element of strangeness or otherness within proximity that is crucial for our valuation. It is precisely because those who are near to us have this element of strangeness that we owe respect to them. It is here that we have to find a basis for the special significance we normally attach to those who are near to us. Since we have most of our relations with other human beings, "the belief that we should respect all human beings is then an expression of the desire to honour the openness created by the strange within the familiar".¹² This is another way of saying that the universalism inherent in the idea that we should respect all human beings as human beings is derivative from a more basic, specific kind of loyalty we have to those who are near to us. For Burms, the fact that we have this kind of loyalty does

¹¹ Burms, 1996, p. 160.

¹² Burms, 1996, p. 160.

not depend upon any rationally acceptable idea, but rests on a recognition of a fundamental ignorance which relates to the transcendence of the other who is near.

What Burms' account boils down to is **relativism** or **subjectivism**, since for him it is legitimate to care for all those others to whom we feel near, which could be **any** other and **any** thing. In this way, he ignores the fact that the element of nearness or familiarity can be spelled out, to some degree, in terms of abstract features. Zimmerman has perceived rightly that it may not be just the perception of otherness which accounts for the universalism of ethics, but the fact that "Enlightenment thinkers (influenced by Christianity) postulated a *universal* human nature that was embodied by people in particular tribes, nations, or religious sects" after they had recognised that "otherness and difference often generate fear and hostility".¹³ If it were only 'otherness' which was important, then it could be argued that nonhuman animals and all other natural entities would have to be treated with the same respect as human animals. This is why I think that the qualities that we are familiar with, for example the fact that we recognise the relative capacity for richness of experience of someone else, have a significant role to play. If it were only otherness which counted, there would be no difference between respecting a tree and respecting a human animal, as both are other. What is important, therefore, is that we recognise different grades of 'otherness', rather than 'otherness' as such. This does not mean that I commit myself, after all, to the

¹³ Zimmerman, 1994, p. 307.

accounts provided by Van de Veer and Birch and Cobb. The crucial difference between their accounts and mine is that for them it is as if people are always comparing and calculating abstract qualities in order to find out how they have to solve ethical conflicts, while I recognise the danger of the attempt to specify the features that, for example, humans should have in order to have a certain graded moral significance. This is also perceived by Zimmerman:

"Problems arise in attempting to *specify* what is common, for specifying groups have often defined the human in a way that excludes or marginalizes those who don't belong to that group".¹⁴

To avoid this danger, I argue that all human beings should be treated as if they had the same capacity for richness of experience. But in order to know how much moral relevance nonhuman natural entities have, I think we should try to find out their relative capacities for richness of experience.

My position could be called **moral extensionism** as it values primarily those nonhuman animals who have some properties that are recognised by us as being most similar to those properties that are most valued by us, such as for example sentience or consciousness. This position has been attacked by **John Rodman**, who questions rhetorically: "Is this, then, the new enlightenment - to see nonhuman animals as imbeciles, wilderness as a human vegetable?", and proceeds to argue that in this way we fail to respect them for their own existence and their own character and

¹⁴ Zimmerman, 1994, p. 308.

potentialities.¹⁵ I agree with Rodman that we do not have to respect nature for its being human-like, but in its own right, indeed for its being different or other. But Rodman fails to see that people are more likely to empathise or identify and show respect for things that they recognise clearly, and recognition is only possible if there is some similarity, while empathy demands a strong recognition of similarity. In my opinion, every identification presupposes a form of **extrapolation**, which starts from what is familiar and moves into the direction of what is relatively and gradually less familiar. An important way to gain knowledge of how nonhuman entities are affected by their environment is by extrapolating from the way in which we are affected by our environment. Knowledge of what it could mean for a plant to be without nutrients presupposes the capacity to know what it means for us to be without food. Rodman also forgets that it is obvious that identification is easier with those species that resemble us most, and that those who are closest to us are most likely to have highly developed capacities to suffer, and the avoidance of unnecessary suffering must be given a high ethical priority.

Callicott, however, has fulminated against the pathocentric or what he calls the neo-Benthamite approach:

"The doctrine that life is the happier the freer it is from pain and that the happiest life conceivable is one in which there is continuous pleasure uninterrupted by pain is biologically preposterous".¹⁶

¹⁵ Rodman, 1977, p. 94.

¹⁶ Callicott, 1983, p. 69.

For him, pain is primarily information (for example, an indicator of injury or exertion) and a necessary part of life for species that have predators. From the perspective that "if nature as a whole is good, then pain and death are also good" he argues that "sickness" should "be regarded as a worse evil than death".¹⁷ In other words, it could be argued that our concern for relieving the suffering of nonhuman animals is unjustifiable because of the positive function pain can have for an organism, and because it is not necessarily better to live an anaesthetised life (which is also shown by the problems some people with congenital lack of pain sensitivity face). However, Callicott pays no attention to the unnecessary human infliction of pain upon nonhuman animals, and to the fact that this (subjective) state is often related to an (objective) state of sickness. What we argue for here is not the relief of pain as such (which could be done by providing painkillers to the animals we have domesticated) but for the improvement of the quality of life of these animals, which is often reflected in the amount of pain we cause them to experience. That it is the quality of life which is ultimately most important is also perceived by Callicott:

"I wish to denounce as loudly as the neo-Benthamites this ghastly abuse of animal life, but also to stress that the pain and suffering of research and agribusiness animals is not greater than that endured by free-living wildlife as a consequence of predation, disease, starvation, and cold - indicating that there is something immoral about vivisection and factory farming which is not an ingredient in the natural lives and deaths of wild beings. That immoral something is the

¹⁷ Callicott, 1983, p. 69-70; Callicott is not consistent here: a/ major: the whole nature is good, b/ minor: sickness is part of nature, c/ conclusion: sickness is evil. Together with the major, we could question also his assumption that all forms of pain are good.

transmogrification of organic to mechanical processes. (...) The land ethic takes as much exception to the transmogrification of plants by mechanicochemical means as to that of animals".¹⁸

Although I agree with Callicott that the whole mechanisation of nonhuman life, rather than merely the suffering, has to be objected to, I reject the view expressed in the last sentence quoted: because of the fact that some animals possess complex nervous systems, I believe we should object more to their transmogrification, as we are subjecting them to specific forms of suffering and disease that are qualitatively (and arguably also quantitatively) greater than the suffering they would endure in more natural ecosystems. Further, Callicott fails to distinguish between amoral forms of suffering, for example as a result of predation, and moral or immoral forms of suffering which are humanly imposed. It simply does not make sense to blend the two together and, as a consequence, turn a blind eye to the latter. It has to be regretted that this may be one of the reasons why the land ethic has mostly been perceived as being incompatible with positions advocated by 'animal liberationists' such as Singer and 'animal rights' advocates such as Regan. The dialogue between the two has not been furthered by Leopold's indifference to domestic animals and Callicott's view that domestic animals are "living artifacts" and that it would almost make "as much sense to speak of the natural behavior of tables and chairs" where animal liberationists claim "that the 'natural behavior' of chickens and bobby calves is cruelly frustrated on factory

¹⁸ Callicott, 1983, p. 71.

farms".¹⁹ Apart from the fact that Callicott ignores the significant difference in complexity between animals and things here, he does not take into account that what is at stake for animal liberationists is changing the cruel treatment of nonhuman animals which causes them to suffer and get diseases, and that the question whether this frustrates their 'natural or unnatural behaviour' is of secondary importance.

With Leopold, Callicott, and the deep ecologists, I agree that humanity has direct duties towards everything, whereby humans are required to have and to take up universal responsibility. While Levinas has argued that our moral responsibility originates from a direct encounter with the human other, Rolston has argued that

"we have direct encounters with life that has eyes, at least where our gaze is returned by something that itself has a concerned outlook. The relation is two-place: I-thou, subject to subject. Compared with concern about soil and water, which are instrumentally vital but blind, when we meet the higher animals there is somebody there behind the fur and feathers."²⁰

In the Whiteheadian perspective that I advocate, however, there is no reason to draw the line under the higher animals.²¹ We are subjects in a community of subjects, and have direct encounters with all other actual occasions as objectified for our experience. These encounters differ in intensity according to the relative richness of experience of other occasions, which helps us in

¹⁹ Callicott, 1983, p. 67.

²⁰ Rolston, 1993, p. 137; Levinas, 1961, p. 21-22, 36-37; For a critique of the strong anthropocentric ethic of Levinas, see Deckers, 1993b.

²¹ This perspective will be outlined in the final part of this dissertation.

adjudicating ethical priorities.

5.3. Weak Anthropocentrism and Its Quasi-vegan Implications

Those who accept this weak anthropocentric ecological ethic hold that, for the rich Western (or Northern) part of humanity, it is morally recommended to be committed to a **quasi-vegan life-style**.²²

A first reason for quasi-veganism is the reduction of the number of animals bred in miserable circumstances, since the demand for meat will diminish.

Secondly, a huge part (that is: 40 percent) of the global production of cereals is consumed by the meat-eating 25 percent of humanity. These cereals are used primarily to feed cattle for human consumption. If we know that a large part of these cereals is imported out of developing countries and that we are faced with a rapidly increasing global population, then an urgent decrease of the Western consumption level not only seems to be desirable, but also morally obligatory. Not only a more justified distribution, but also more efficient use of produced cereals (and thus decrease of cattle) are priorities. Now some might counter this by saying that there is and will be enough food to feed the world population. However, there is an increasing consensus among agricultural scientists that a profound agricultural revolution

²² It is debatable whether or not we need animal protein, so let us say: To the minor degree that we, because of health reasons, need animal protein, it may even be morally acceptable to kill nonhuman animals for this purpose. Yet one has to try to make sure that the animals used for human consumption have been given a high quality of life. Moreover, it is not justified to recommend veganism for people who lack appropriate means to substitute animal protein.

is required to be able to cope with the needs of an increasing world population. This is challenging the idea of sustainable agriculture, since both production-intensification and extension of the area used for agricultural purposes are required. The question arises whether this will be possible (regarding problems such as pollution of the surface waters and the soil through artificial pesticides, herbicides, fertilizers, and manure)? Finally, there are health indications: the health of people who eat a lot of (especially red) meat may be threatened because of too high intake of saturated fats. If the consultant cardiologist Graham Jackson is right in holding that "saturated fat (...) raises cholesterol" and that "we now have overwhelming evidence that a high cholesterol causes coronary disease", then people would benefit their health by limiting their consumption of red meat. There is also an issue of distributive justice here: while some people's health may be threatened by overconsumption of meat (bringing about high medical costs for treatment), many people (especially in the 'third world') are malnourished and lacking in the most basic medical care.²³

Callicott, however, has argued that "a vegetarian human population is (...) *probably* ecologically catastrophic".²⁴ This is so because it would shorten food chains terminating with humanity by allowing for a more efficient transformation of solar energy from plants to human biomass. More food would become available for human consumption and Callicott fears, as a consequence, a catastrophic

²³ Jackson, 2000, p. 204; See also Durning, 1991, p. 207.

²⁴ Callicott, 1983, p. 71.

population explosion, leading to an increasing taxation of the environment, given the fact that humans tax their environment more than any other animal.

His view, however, can be challenged. It could be argued that those people who turn to vegetarianism are most likely to decrease their overall impact upon their environment by using less and less harmful resources, especially if vegetarianism is accompanied by a spiritual worldview which questions world capitalism and proposes alternative forms of community. Further, there is no necessary link between vegetarianism and a rise of the world population, and if it is the case that one of the reasons why people choose to become vegetarian relates to the fact that they want to reduce their impact upon the environment, then they are also, because of the same reason, likely to contribute to a decrease in world population.

Some might suspect that I claim that quasi-veganism should be our new religion? Surprisingly, my answer is: No, it is only one element of a life-style, the core of which could be labelled with the words: "simple in means, rich in ends".

A new way of being embraces a manifold of practical action modes, of which I will only mention a few. This list is not intended to be an exclusive list and remains tentative and suggestive rather than directive. Most of it is supported by the deep ecology movement. We should use goods of which there are enough for everyone. We should opt for meaningful jobs instead of jobs that allow us to gain a lot of money. We should participate in the process of primary production for our vital needs and free us from

the anonymous supermarket. We have to take the ecological burden of tourism into serious consideration and reduce world population, particularly in the rich world, because our weight on the environment is much heavier.

5.4. Weak Anthropocentrism and Its Relatedness to Theology

We cannot accept the strong anthropocentric assumption that the whole natural world exists solely to be possessed and used by humans to their unlimited advantage. Berry is right: "The earth belongs to itself and to all the component members of the community. The entire earth is a gorgeous celebration of existence in all its forms."²⁵

This does not mean that everything which is natural is good. It may be a good idea to eradicate the malaria mosquito, but ecological thinking may move us, in the words of Shepard and McKinley, to "silent wonder and glad affirmation" and to "an invitation to get in gear with the way the universe is operating", rather than ruthless exploitation.²⁶ Not only the science of ecology can help to restore our feeling of wonder, but also religion. For believers, the fact that God loves nature may be an additional reason to respect nature, which is shown for example by St. Francis' love for insignificant lifeforms, which can result in a self-giving engagement with the world of which Christ has

²⁵ Berry, 1993, p. 175-176; Yet it may not be straightforward to argue for a 'community' of lifeforms on earth. The word 'community' suggests close ties, which may not be present between all members.

²⁶ Rolston, 1983, p. 53-54: Reference is made to Shepard and McKinley, 1969, p. 10.

given the ultimate example.²⁷ Susan Bratton and Daniel Day Williams have argued rightly that real love for nature involves trying to understand it on its own terms and accepting its unpredictable power, both of which relate to an acceptance of the otherness of nature, without which there can be no true love.²⁸ We could conclude with Bratton that "Christian love for nature should be self-giving, include a willingness to suffer, and be mediated by humility", but I disagree with her view that this has to be as "indifferent to value as love for human neighbors is supposed to be".²⁹ Although a loving engagement with natural entities may precede our rational ethical judgment which questions this engagement constantly with regard to its universalisability, thus establishing value hierarchies, I do not think we can do without the latter. If we were indifferent to value, our love for the mountain and for the animals living on it would be the same. This, however, is not the case: the fact that we know that the animals respond to and are affected by the way we treat them, while the mountain does not seem to be affected by our love for it, results in different forms of care.

Because of the Christian belief that God loves nature, some ecological ethicists, for example Attfield, have argued that human beings should therefore consider themselves to be trustees or stewards in the sense that God has given them a duty to respect

²⁷ Bratton, 1992, p. 15-16.

²⁸ Bratton, 1992, p. 19; Williams, 1981, p. 114-116.

²⁹ Bratton, 1992, p. 24.

nonhuman nature.³⁰ But the problem with this has been perceived well by Shaw:

"The trouble is that it (...) too easily slips into domination and exploitation solely for the benefit of humankind, too easily does away with any thought of humility in the face of the natural world".³¹

To avoid a strong anthropocentric reading of the stewardship model, Van den Brom has suggested that it may be better to see ourselves as servants of God. Van den Brom supports a theocentric perspective wherein the belief that the earth is a gift from God is central. As servants, we are then called to follow the example of Jesus as the Good Shepherd (John 10, 1-21) who shows that servants can "abandon (a part of) their longings and needs in order that the rest of creation could be saved from serious decay".³² We could object, however, that what is needed is not an abandoning of one's longings, but a transformation. Our role as servants is further clarified by Van den Brom as one that exists "in order to bring release for all creation" and "to give expression to the blessing of the Creator on behalf of the whole of creation".³³ Since we are language users, we "can express the gratitude of other creatures because of their existence" and "pray and intercede for all living creatures, being their representative before God".³⁴ A similar view has been expressed by Grizzle and Barrett: "As priests, Christians are called on to intermediate

³⁰ Attfield, 1983b.

³¹ Shaw, 1996, p. 57-58.

³² Van den Brom, 1997, p. 310-311.

³³ Van den Brom, 1997, p. 311.

³⁴ Van den Brom, 1997, p. 311.

between God and all creation, human and nonhuman".³⁵ The view that we, as priests, can offer the whole creation back to God, is also held by John Zizoulis (now Metropolitan John of Pergamon).³⁶ And a similar view is held by Shaw, who writes that the "role of the human being vis-à-vis the natural world is akin to that of player-manager" in football, where we are part of the game, but have a special responsibility towards the team and towards the owners. I cannot subscribe to these points of view. It has often been thought that nonhuman nature would somehow lack a direct relationship with God, and that humans are therefore called to be the link between them. I do not see why we have to do things 'on behalf of' nonhuman beings or as 'representatives' for them. These views smack of strong anthropocentrism. Nonhuman nature does not need us to be related to God! Although the model of the 'player-manager' may overcome these difficulties, it overlooks the fact that the problem is precisely that we think we have to control or manage nature (where it should have become obvious that we can not do this), while in actual fact the real problem is that we lack control over ourselves.

In spite of the fact that I support the idea that the creation does not belong to us, but to God, I see at least three problems with a theocentric ecological ethic (or an ethic which makes

³⁵ Grizzle and Barrett, 1998, p. 245.

³⁶ See for example Zizoulis, 1992; The model of humanity as the priest or mediator of creation is held by many theologians in the Orthodox tradition. See for example also Sherrard, 1992 and Gregorios, 1978, p. 85: "Humanity has a special vocation as the priest of creation, as the mediator through whom God manifests himself to creation and redeems it".

respect for nonhuman nature totally dependent on respect for God). First of all, theocentrism does not help a believer to solve moral issues: the belief that God is at the centre of things is a truism which does not tell automatically how conflicts between humans and nonhumans have to be resolved.

Secondly, theocentric ecological ethicists who concentrate their efforts on showing that humans should respect nonhumans because God values them run the risk of having nothing to say to non-believers who, in consequence, can only be blamed for not believing in God, not for not caring about nonhuman nature. Those who can also provide arguments to show respect without referring to God will be in a stronger position.

And finally, theocentric views often value parts of nature only because God values them. Accordingly, we have indirect duties towards nonhuman nature, and direct duties towards God, a third party.³⁷ This runs counter to our view that we have direct duties towards nonhuman entities.

Although I do not defend a theocentric ecological ethic for the reasons given here, I believe that the earth belongs to God and that humans have no right to claim ownership. Another good reason why Christians should denounce the arrogance that is often accompanied by strong anthropocentrism is that they should recognise that, although they can and have to contribute towards the glorification of the creation, the final word will be God's. Not only because of the interdependence of things, but also

³⁷ This is the view of Linzey, 1987, p. 82-83, although he is a little ambiguous at one point by arguing that both he and Regan 'perceive subjects of inherent value in creation' (p. 87).

because of our ultimate dependence upon the mystery of reality, we should leave the desire to control things behind us.³⁸

5.5. Weak Anthropocentrism and the Solution of the Is-Ought Fallacy

To some extent the is-ought fallacy is a typical modern or Enlightenment problem, and the ideologies that emerged in this period are partly to blame for our ecological problem. Modernity could be seen as an epistemological and ontological inversion. While the order of being had been the ground of the order of knowing and the ground of human existence before modernity, from Descartes onwards it was more frequently humanity, rather than nature, which was perceived as the ground of the order of knowing and the order of being. The is-ought fallacy is the alleged fallacy that what we ought to do (the ethical order) can be derived from what is (the order of being). This is fallacious because the order of being is held to be completely neutral or indifferent towards the question what ought to be done.

I do not think that this claim is justifiable. Although I am wary of premodern claims that there is a straightforward order of being that somehow dictates unambiguously what we can know and what we ought to do, I think our epistemologies and our ethical systems are, in a subtle way, dependent on the order of being. Here I will focus only on the relation between ethics and ontology.

³⁸ Grove-White, 1992, p. 15.

I grant that humanity may be the sole moral measurer of things, but what we evaluate is not a human invention or imposition on the order of nature, but rather emerges from an intuition or discovery that the cosmic system to which we belong is, in the words of Holmes Rolston, "value-able, able to produce value".³⁹ Rolston argues that, with the emergence of life and mind, levels of value emerged that never existed before, but we may not go on to say that therefore all value emerges at the human or upper animal level. He argues, just like Taylor, for the recognition of intrinsic value in animal and plant life, for "organisms have ends, although not always ends-in-view" and this is why, for example "the oak grows, reproduces, repairs its wounds, and resists death".⁴⁰ But apart from this, he also asks for the recognition of systemic value in the ecosystem. We have to differentiate this from both instrumental value and intrinsic value as the system is neither just a means towards an end (say the production of life) nor capable of coordinated and integrated behaviour that allows it to defend itself as an organism or cell does. He believes that there are, within the system, "upward arrows over evolutionary time" or "a prolife tendency, not mere stochastic process": "An ecosystem has no head, but it has a 'heading' for species diversification, support, and richness. Though not a superorganism, it is a kind of vital field."⁴¹ Rolston argues that it is not sufficient to value individual organisms, as the products of the ecosystem. Instead, the process

³⁹ Rolston, 1993, p. 155.

⁴⁰ Rolston, 1993, p. 142-143.

⁴¹ Rolston, 1993, p. 152-153.

which has produced individual lifeforms should be valued as well. In his view, values such as the beauty and integrity of the ecosystem are not just invented by humans: "what counts as beauty and integrity is not just brought to and imposed on the ecosystem but is discovered there".⁴² In a similar way as Naess, Rolston argues that "for some observers at least, the sharp is/ought dichotomy is gone" since a proper observation of nature shows that the "empirical content, of order, harmony, stability, is drawn from, no less than brought to, nature" which allows one to say that "an 'ought' is not so much *derived* from an 'is' as discovered simultaneously with it".⁴³ This is further supported by an appeal to Wittgenstein, who wrote that "ethics cannot be put into words" as such things "*make themselves manifest*".⁴⁴

In sum, Rolston's position boils down to the idea that the human valuing of nature is informed by the value that nature has independently of human beings.

There are some problems with Rolston's account.

An issue to which we will return later is that it is not clear how Rolston's systemic value differs from instrumental value: it seems to be the case that Rolston in effect argues that the system is valuable because it produces life, rather than being valuable in itself.

But what I would like to deal with here is that Rolston does not

⁴² Rolston, 1983, p. 47.

⁴³ Rolston, 1983, p. 48.

⁴⁴ Rolston, 1983, p. 49: Reference is made to Wittgenstein, 1969, 6:421, 522.

make clear enough the difference between moral and pre-moral valuing. While the latter refers to, for example, the spontaneous protection of one's individual or species-specific quality or quantity of life (shared by humans and nonhumans), the former refers to the specifically human reflexive capacity to make decisions that involve weighting these pre-moral values. When we talk about moral value, it is clear that there can be no value in this sense apart from a human or divine evaluator. Here, we can agree with Callicott, who argues:

"It is my view that there can be no value apart from an evaluator, that all value is as it were in the eye of the beholder. The value that is attributed to the ecosystem, therefore, is humanly dependent or (allowing that other living things may take a certain delight in the well-being of the whole of things, or that the gods may) at least dependent upon some variety of morally and aesthetically sensitive consciousness."⁴⁵

Elsewhere, Callicott appeals to Hume, Smith, and Darwin to phrase the view that "moral value is not identified with a natural quality" but "projected by valuing subjects".⁴⁶ This view is also known as **projectivism**, which is defined as follows by Dancy: "we *project* moral properties onto a world which in itself has none".⁴⁷

This is clearly different from Rolston's view. Although Rolston may, like Callicott, not want to identify moral value with natural qualities or pre-moral values, for Rolston our moral values are at least influenced by the natural qualities or pre-moral values

⁴⁵ Callicott, 1983, p. 64; More recently (Callicott, 1992), Callicott has argued for the view that value is *vertabragenic* (produced by all animals with spines), which boils down more or less to the conscious animals.

⁴⁶ Callicott, 1993a, p. 119.

⁴⁷ Dancy, 1993, p. 419.

that are discovered in nature.

We agree with Callicott's view that all moral value is anthropogenic, but at the same time with Rolston's view that moral values are informed by natural goods (which is synonymous to 'natural qualities' or 'pre-moral values'). Rolston's position is akin to the positions of Aristotle and Aquinas, who held that all natural entities are naturally attracted towards the fulfillment of their good. But Harlow, for example, is one out of many contemporary ethicists who are convinced that in our post-Humean context it no longer makes sense to speak of natural goods because Hume denied the existence of teleology as a property outside the human mind, and that "since Darwin, teleological explanations in biology are no longer foundational, and are rooted instead in the non-purposive mechanics of natural selection".⁴⁸ Yet Harlow acknowledges that, at the same time, teleological descriptions are still being used, and that perhaps "the so-called 'value-free' mechanistic level of description is just as anthropomorphic, (i.e. linguistically and hence culturally dependent) as any other".⁴⁹

There are two important problems here.

The first problem is: Harlow omits to point out that there are good reasons why teleological explanations should still be used. As we will argue more extensively in the next part, there are good reasons for describing natural entities as teleological entities realising their own good. Briefly, the essence of what we will

⁴⁸ Harlow, 1992, p. 35-36.

⁴⁹ Harlow, 1992, p. 37.

highlight there comes down to this: the reason why human beings ought to value morally nonhuman entities, is because they are valuing themselves. The fact that nonhuman entities value themselves does not deny that it is an exclusively human capacity and task to ascribe moral value to other entities' self-valuation. Rolston, for his part, is not very clear as to whether or not there is teleology in nonhuman nature. Although he argues that life forms try to survive, he is not sure about assigning purpose to nature.⁵⁰

Rolston would have been more consistent if he had argued more clearly that his defence of intrinsic value in the entire biological realm must inevitably lead to the recognition that there are also valuing or teleological centres apart from human beings. In other words, it is hard to believe how something can be a good-for-itself without having some minimal degree of experience, as we will argue more elaborately in part three, chapter two ('The Case for Panexperientialism').

The second problem is: once we have granted that natural entities have a good of their own, it could still be argued that this factual recognition can never lead to a moral imperative or exhortation for us to take notice of this. In other words: it is impossible to derive an 'ought' from an 'is'. To do so would be committing the 'is-ought' or naturalistic fallacy. And so we are back at the starting point of this section.

⁵⁰ Rolston, 1988, p. 106, 149, 221.

Anti-naturalists take a famous text from Hume to make this point. Hume complains about the fact that, in all moral systems he has come across,

"the author proceeds for some time in the ordinary way of reasoning, and establishes the being of a God, or makes observations concerning human affairs; when of a sudden I am surpriz'd to find, that instead of the usual copulations of propositions, *is*, and *is not*, I meet with no proposition that is not connected with an *ought* or *ought not*."⁵¹

Hume thinks this is problematic

"for as this *ought*, or *ought not*, expresses some new relation or affirmation, 'tis necessary that it shou'd be observ'd and explain'd; and at the same time that a reason should be given, for what seems altogether inconceivable, how this new relation can be a deduction from others, which are entirely different from it".⁵²

From this passage in Hume, the conclusion is often drawn that there is a fundamental distinction between facts and values. It is then held that moral judgements about what is good and bad are fundamentally different from factual propositions. Goodness, for example for Moore, has to be conceived as a unique and *sui generis* property, that cannot be further analysed: "If I am asked 'What is good?', my answer is that good is good and that is the end of the matter."⁵³

Pigden has pointed out correctly that this conclusion, however, can not be derived from Hume's text. All that Hume is doing is making a simple point: the fact that logic alone shows that a conclusion containing an 'ought' cannot be derived from 'ought'-free premises. Put simply: "You don't get out what you haven't

⁵¹ Hume, 1981, p. 469.

⁵² Hume, 1981, p. 469.

⁵³ Pigden, 1993, p. 421: Reference is made to Moore, 1903, p. 6.

put in."⁵⁴ But this does not mean that moral judgements can only be sincere or insincere, and not - like factual propositions - true or false. As Pigden points out:

"hedgehog-conclusions cannot be derived non-vacuously from hedgehog-free premises. But this does not entail that there is a realm of irreducible hedgehog-facts. (...) So why should we posit a realm of irreducible *moral* facts to explain why 'ought' cannot be derived from 'is'?"⁵⁵

What this amounts to is that it is logically invalid to derive norms from 'facts', but it would be erroneous to conclude from this that the ontological order and the moral order are two separate orders where assertions regarding the former are warranted by the order of the objective outside world while assertions regarding the latter are warranted solely by the order of the subjective human mind. Does this mean that we have to give up the distinction between pre-moral and moral values that we made earlier on? In one sense, the answer is positive, as we always experience reality as morally significant, and never start from assumptions that are 'ought-free' to derive moral norms. This seems to be the essence of Naess' gestalt ontology.⁵⁶ But in another sense, we can keep the distinction, for example of imagining the pre-moral value that for example a hedgehog has for him- or herself. Our moral rule that running over hedgehogs is not allowed is then based on our moral perception of the fact that

⁵⁴ Pigden, 1993, p. 423.

⁵⁵ Pigden, 1993, p. 424-425.

⁵⁶ This is why it has to be regretted that theologians have been reluctant to take on board the implications for moral theology of the biological conditions and evolutionary development of human behaviour described by sociobiology. A recent study by Pope has revealed that the attitudes of theologians range from indifference, to suspicion, to outright hostility. See Pope, 1998, p. 280.

it is a pre-moral value for the hedgehog not to be run over.

The aberrations of for instance social Darwinism - which emerged at the end of the nineteenth century as a specific socio-political development of Darwin's ideas and led to a *laissez faire* social morality - do not prove that it is, in principle, wrong to base ethical conclusions on facts about biology, but that it is in practice very difficult to come up with a set of requirements based on a theory of human nature.⁵⁷ The difficulties we experience may not be so great for entities that lack the flexibility and plasticity of human beings. But for human beings, we have to be very careful. Some people may derive the conclusion that sickle-cell anemia, for example, is good for some people from the fact that some people have the allele for sickle-cell anemia. What this conclusion ignores, however, is the fact that people who carry this allele have also been endowed by some other genes which make it likely that they will say that they do not like this particular allele. This is also why I do not agree with the principle that human beings ought to do what is necessary to ensure the survival of a common gene pool - which would be the fundamental ethical principle in the early writings of the sociobiologist E.O. Wilson according to Kitcher - because this obscures a significant part of our biological endowment: the fact that humans are endowed by their genes to support other goals, such as for example the goal of saving whales, for which Greenpeace activists have risked life and limb.⁵⁸ I am not arguing

⁵⁷ Ruse, 1993, p. 501.

⁵⁸ Kitcher, 1985, p. 428.

that all people are naturally predisposed to become Greenpeace activists, but I am arguing that the success of an organisation like Greenpeace is only understandable if we assume that the goals represented by Greenpeace are understood by their supporters as contributing towards some of the goals that people are naturally predisposed - but not predetermined! - to fulfil.⁵⁹

The reason why theologians have generally been quite reluctant to incorporate insights from sociobiology may relate to the fact that sociobiologists have sometimes specified human behaviour too narrowly, and at other times - perhaps as a result of this - suggested a dualistic explanation where some behaviours flow from natural predispositions and others from cultural conventions. An example of the former is the attempt to understand all forms of human behaviour as directly geared towards inclusive fitness. In a comprehensive overview of sociobiology, the Catholic theologian Stephen Pope argues that

"moral inquiry discerns good and evil in human life as distinct from what serves or does not serve inclusive fitness, and it is imperative to distinguish clearly the former from the latter".⁶⁰

⁵⁹ It remains true that biological evidence for the existence of a natural propensity to care for whales, for example, may be hard to find, a conclusion which is also made in a more recent work of Wilson, where he advocates "biophilia" or the "inborn affinity human beings have for other forms of life" for which he believes the evidence "remains thin, and most of the underlying theory of its genetic origin is highly speculative". See Wilson, 1994, p. 360, 362. Part of the reason why the evidence remains so thin may, however, also relate to the fact that sociobiologists have, generally, been reluctant to consider higher organisational levels than the level of the gene.

⁶⁰ Pope, 1998, p. 288: Pope recognises elsewhere (p. 285) that there may be two more predispositions favoured by natural selection: preference for those who reciprocate over those who do not and preference for in-group members over out-group members.

In this way, Pope drives a wedge between ethics and nature which could only be removed if Pope would understand (which he does not) that the desires that people naturally have are not only related to inclusive fitness. A similar problem we find in the work of the sociobiologists Sober and Wilson, who thereby also provide an example of the dualism to which we referred above. Sober and Wilson suggest that we have two sets of desires, one set granted to us by nature, and another set which is formed by cultural convention.⁶¹ If the content of the latter set is decided only by human convention, then we could decide, for example, on the validity and implementation of the following ethical rule: "Human beings ought to show respect for nonhuman life and, therefore, should eat cars". Yet we know that the rule that one should eat cars will never become part of human moral systems. I claim that this is so because, when we construct moral ideals, we make sure that they are not mere conventions, but that they are expressed in keeping with our biological predispositions. For a moral system to be successful, it has to be **compatible** with our natural inclinations.

5.6. Weak Anthropocentrism and the Solution of Moral Conflicts

Although we have argued that it is not clear how Rolston's systemic value differs from instrumental value, we will keep the term systemic or ecological value to show that things have not only instrumental value for humans, but for all life forms benefiting from the state of their ecosystem.

⁶¹ Sober and Wilson, 1998, p. 303.

In spite of the fact that Rolston does not provide a clear solution as to how we could solve conflicts between systemic and intrinsic value, I believe that his recognition of systemic value provides, when further developed, a way to argue that it is not always the most complex organisms who deserve most moral significance. Rolston describes the self as metabolically interpenetrating the ecosystem and even writes, metaphorically, that "the world is (his) body".⁶² Evolutionary theory has shown that organisms have evolved in the way they did mainly by adapting in specific ways to environmental pressures. When we understand that the way we and other species are is so intimately connected with the way our whole ecosystem has developed, then the maintenance of the stability of the environment can be given a high priority. It should be given such a high priority that it may allow for the sacrificing of complex animals, which may include the culling of some deer in the Highlands of Scotland. The reason why I think this could be justified relates not to endangered plants in the Highlands having more intrinsic value than deer (which I believe is not the case), but to the fact that a diversity of plant life has systemic or ecological value for its being crucial for the stability or integrity of the ecosystem. If we do not attach great value to the stability of ecosystems, all living beings, including complex life forms such as deer, may be threatened. The planetary ecosystem has maintained a more or less steady state over thousands of years, which has allowed species to cope by adapting to relatively slow changes. This is also perceived by Rodman: "A tropical rainforest may take 500

⁶² Rolston, 1983, p. 51.

years to develop to maturity and may then maintain a dynamic, steady-state indefinitely (for millions of years, judging from fossils) if not seriously interfered with".⁶³ If we want to prevent a catastrophic event comparable to the sudden extinction of the dinosaurs from taking place again, this time by human intervention, then it would be better to try to tread lightly on earth and allow only for small changes in our environment (which are incompatible, for example, with events such as the Highland Clearances). We owe this not only to ourselves, but also to other living species, and especially to complex species like us.

In the final part of this dissertation, we will argue that the key to a satisfactory solution to the problem of moral conflicts depends on accepting the validity of the argument put forward in chapter two (with the title: 'The Case for Panexperientialism'). There, it will be made clear that those approaches which highlight the value of ecosystems (ecocentrism) can be combined harmoniously with those approaches that focus on the intrinsic value of individuals (pathocentrism, biocentrism). Since panexperientialism can only be defended successfully by abandoning classical theism, in the next and final part of this dissertation we will first introduce and criticise classical theism (chapter one).

⁶³ Rodman, 1983, p. 90.

Part Three: Process Theism as an Alternative to Classical Theism.
Panexperientialism as a Replacement for Materialism and Dualism

Why theology? It could be argued that the most important things have been said in the preceding sections. We have some knowledge about the world we live in and we know how to live in it.

I believe, however, that this is not the end of the story.

It is my contention that the modern worldviews of materialism and dualism - which have been defined in the first chapter of the first part and which will be contrasted with an alternative in the second chapter of this part - and what could be called 'the classical ethics' or strong anthropocentrism, have been supported, justified, and anticipated by a metaphysical framework which has often been called 'classical theism', which will be defined in the first chapter.

Only with the abandonment of classical theism will the alternatives of panexperientialism (presented in the second chapter) and of a weak anthropocentric ecological ethic, for which the acceptance of panexperientialism is a *conditio sine qua non*, be viable.

The renouncing of classical theism, however, will not stop all talk about God altogether, since process theism provides a credible theological alternative (as will be argued in the third chapter).

Chapter One: Classical Theism

1.1. The Essence of Classical Theism

In traditional or Aristotelian theism God is regarded as the highest substance or highest being, the unmoved mover, in every respect separate from matter and unchanging.

For Aristotle, reality is a hierarchical realm where what is spiritual is ranked higher than what is material. The lowest level is the level of the sublunar world, which is both perishable and material. While the individual beings perish, the kinds or species are supposed to be as eternal as the world itself.

The intermediate level is the realm of the heavenly bodies. Although they are both material and moving, their matter is more elegant than the matter of the sublunar world and their movement occurs along circular or perfect trajectories.

The third or highest and most perfect level of reality, then, is both separate from matter and unmovable: it is occupied by God.¹

By classical theism we define the conflation of Greek - primarily Aristotelian - worldviews with the Christian doctrine of God as the creator of the world. Although Christianity differs from the Aristotelian worldview in important respects, it was also strongly influenced by it. Classical theism was also shaped by (Neo)platonic doctrines and by early Christian Gnosticism. While the former held the material world to be a poor realisation of the eternal world of ideas or forms, the latter downplayed the

¹ Aristotle, 1960, p. 260; Van der Veken, 1992a, p. 5.

cosmic significance of the incarnation of Christ and held the material world to be intrinsically evil.²

Two Western theologians who have had a considerable impact upon Western Christian theology will be highlighted in the following section, being Anselm and Aquinas. Both thinkers have shaped the basic contours of classical theism.

Anselm shows his affinity with Aristotle, for example, in his *Proslogion*. He starts from the assumption that God, as that than which a greater cannot be conceived, must be 'whatever it is

² Northcott, 1996, p. 200-209: The cosmic significance of Christ is clearly stressed for example in the prologue of the gospel of John and in Colossians, 1, 13-15 and 19-20, in Romans, 8, 18-19, and in the second-century theologian Irenaeus; Northcott, 1996, p. 211-216: One of the early exponents of the classical theistic position is Athanasius of Alexandria (fourth century) who argued that redemption/salvation was the saving of "the rational race" (=humanity) from the corruption of the irrational world. Platonic or Neoplatonic influences are also noted in for example Basil of Caesarea, Gregory of Nyssa, Gregory of Nazianzus, and Augustine. Gregory of Nazianzus, for example, held that redemption only concerns humanity's soul being freed from corporeality and does not address the other creatures as they lack intelligence. Augustine had a more positive attitude towards the body and focused rather on the fallenness of the human will. But the human will, unlike the rest of creation, could be touched by the grace of divine revelation; Northcott, 1996, p. 206-207: Northcott refers to the well-known work of Blumenberg, who notices the influence of Gnostic theology - with its view of God as immutable and transcendent in every respect - on nominalism and scholasticism, and specifically on Anselm and Ockham. These may have nourished the modern scientific conception of the world in terms of absolute space and time (cf. Newton), (for many, not for Newton!) devoid of God and not even revealing God. See Blumenberg, 1983, p. 148-149. It is indeed beyond dispute that the transcendence and absolute will-power of God were stressed more by Ockham than by Aquinas. More than any other Christian theological system, late medieval nominalism may have paved the way for the unrestricted exploitation of nature that has prevailed since modernity. If the idea that human beings conceive of themselves analogously to their view of God contains some element of truth, then the idea of having autarchic mastery over the rest of nature is analogous to the divine capriciousness in nominalism.

better to be than not to be'. Consequently, God must be thought of as being both compassionate and impassible. God must be compassionate because a compassionate being is held to be superior to an uncompassionate one, and God has to be the supreme good. But God must also be uncompassionate or impassible as in order for God to be a perfect being He/She may not be changed or influenced by any other being. Anselm tries to resolve this apparent contradiction by stipulating that God must be compassionate according to our understanding, but not according to his being.³ Pailin rightly comments that this solution

"is intrinsically unsatisfactory because it involves the denial of an essential element of the notion of 'compassion' when the notion is applied to God. Talk of 'compassionate' acts that do not reflect some feeling of 'sympathy for the wretched' is talk that seems to contradict itself. It is, furthermore, contrary to the believer's faith in God as one who is significantly described as one who grieves over humankind, loves people as parents love their children, pities those who suffer, and longs for the restoration of those who are lost - in the God, that is, who is described in the biblical story of the burning bush, Hosea, and the parables of the lost sheep, the lost coin and the prodigal son, and who is held to be normatively revealed in the suffering of Jesus".⁴

We are left with an unresolved problem: how to say that God is good, changing, and compassionate, while maintaining that God is unchanging, and therefore uncompassionate?

But more than Anselm, it was Thomas Aquinas who tried to harmonise the Christian faith with Greek - especially Aristotelian - philosophy. This should not surprise us as Aquinas was among the first Christian theologians to whom the Aristotelian works were

³ Anselm, 1962, p. 11-14.

⁴ Pailin, 1994, p. 68.

in large part accessible. Hartshorne wrote of Aquinas' lasting influence on the treatment of theological problems:

"We are not aware of any important advance upon his treatment of them - within the confines of classical theism - in the seven centuries since he wrote."⁵

As in Aristotle, God is described in his *Summa Theologica* as separate from matter, "*omnino immutabilem*" or in every respect unchanging and unchangeable, and "*purum actum*".⁶

However, two qualifications are adopted to the Aristotelian scheme.

Firstly, God not only moves the other substances, but also brings them into being or creates. His creative act is mediated by the celestial bodies, which are moved by the angels.⁷ The hierarchy between the beings is summarised quite well in the following:

"Est autem multiplex modus essendi rerum. Quaedam enim sunt quorum natura non habet esse nisi in hac materia individuali; et hujusmodi sunt omnia corporalia. Quaedam vero sunt quorum naturae sunt per se subsistentes, non

⁵ Hartshorne, 1976, p. 120.

⁶ Aquinas, ST, I, q.3, a.1 and q.9, a.1-2.

⁷ Aquinas, ST, I, q.91, a.2: The hierarchy between the beings is also explained by reference to their relative degree of motion. When we read the following (I, q.9, a.2) we have to bear in mind that local motion was held to be superior to substantial motion: "*Sic igitur in omni creatura est potentia ad mutationem vel secundum esse substantiale sicut corpora corruptibilia, vel secundum esse locale sicut corpora caelestia, vel secundum ordinem ad finem et applicationem virtutis ad diversa sicut in angelis. Et universaliter omnes creaturae communiter sunt mutabiles secundum potentiam creantis in cujus potestate est esse et non esse earum. Unde cum Deus nullo istorum modorum sit mutabilis proprium ejus est omnino immutabilem esse.*" Aquinas proceeds that the good angels are all endowed with unchangeable choice by God, but can still change their location.

in materia aliqua, quae tamen non sunt suum esse, sed sunt esse habentes: et hujusmodi sunt substantiae incorporeae, quas angelos dicimus. Solius autem Dei proprius modus essendi est ut sit suum esse subsistens."⁸

These angels are identified with what Aristotle had called the "*substantiae separatae*".⁹ They are responsible, through the fact that they move the celestial bodies, for the creation of all the "*corpora mixta*" or the earthly bodies, which are imperfect as they are composed of the four material elements which move either upwards (air, fire) or downwards (earth, water). Aquinas did not agree with Plato's idea that the forms of the corporeal things are produced by forms that exist without matter through some sort of participation: "*corpora caelestia causant formas in istis inferioribus, non influendo sed movendo*".¹⁰ The angels perform their activity in perfect submission to God. However, these "*causae secundae*" - who contain also the "*virtus seminis*" apart from the "*corpora caelestia*" - are only responsible for the creation of the body or the "*creatio mediata*", as the body is composed out of matter. Together with the body of the plants and the animals, respectively the vegetative and the sensitive souls are shaped. The rational soul, however, is a "*creatio immediata*", a direct creation of God, and therefore immortal.¹¹ The celestial

⁸ Aquinas, ST, I, q.12, a.4.

⁹ Aquinas, ST, I, q.65, a.4.

¹⁰ Aquinas, ST, I, q.65, a.4.

¹¹ Aquinas, ST, I, q.65, a.4 and q.90, a.3 and q.91, a.2; Aquinas, SCG, I, c.16 and II, c.89; However, in Aquinas, ST, I, q.104, a.2 ad 1m we read "*quod Deus immediate omnia creavit*". Presumably the apparent incongruence results from the difference between God as *causa prima* (as immediate creator of the fact that there are *causae secundae*) and the second causes as playing a part in determining **what** the creatures are. This is also clarified in

bodies will stop moving in an eschatological future. They are only moving because of the salvation of humanity. When their salvation is reached, their motion does not make any sense anymore. The symmetry of time is underlying his interpretation of the eschatological 'restoration' of things: "*Finis rerum respondet principio. Deus enim est principium et finis rerum. Ergo et exitus rerum a principio respondet reductioni rerum in finem.*"¹²

A second qualification to the Aristotelian scheme is that, although the world has not always existed, God must somehow be "*substantiam separatam subsistentem et esse separatum subsistens*" or "*ipsum esse per se subsistens*".¹³ This is connected to Aquinas' interpretation of the pronouncement of the divine name in Exodus 3 as "*qui est*" which is understood as "*esse in praesenti, et hoc maxime proprie de Deo dicitur, cujus esse non novit praeteritum vel futurum, ut dicit Augustinus*".¹⁴ Although exegetes today agree that this may not be the most accurate translation of the text, for Aquinas and many subsequent classical theists this meant that

ST, I, q.45, a.5c: "*Producere autem esse absolute, non in quantum est hoc vel tale, pertinet ad rationem creationis.*"

¹² Aquinas, ST, I, q.90, a.3 ad 2.

¹³ Aquinas, ST, I, q.12, a.4 and q.44, a.1. See also I, q.4, a.1.

¹⁴ Aquinas, ST, I, q.13, a.11; Augustine, 1961, p. 252-260, 267, 280, 290: As a result of the fact that God is immutable and yet omnipotent, Augustine concluded that God must be outside of time, and that He created time so that worldly events happen in time. To God, however, past, present, and future are present simultaneously.

God does not require the world.¹⁵ This is shown, for example, where he says that there is no real relation between God and the creatures:

"Cum igitur Deus sit extra totum ordinem creaturae ordinentur ad ipsum, et non e converso, manifestum est quod creaturae, et omnes creaturae realiter referuntur ad ipsum Deum, sed in Deo non est aliqua realis relatio ejus ad creaturas, sed secundum rationem tantum, in quantum creaturae referuntur ad ipsum. Et sic nihil prohibet hujusmodi nomina importantia relationem ad creaturam praedicari de Deo ex tempore, non propter aliquam mutationem ipsius, sed propter creaturae mutationem, sicut columna fit dextera animali, nulla mutatione circa ipsam existente, sed animali translato. (...) relationes quae de Deo dicuntur ex tempore non sunt in Deo nisi secundum rationem, ita nec fieri nec factum esse dicitur de Deo nisi secundum rationem (...)." ¹⁶

God's position relative to our reality remains as undisturbed as a pillar in a storm! As a result, the world does not add anything real to God. It only adds to His external glory - whatever this may be. Like Anselm, Aquinas had to dismiss the idea that the world could affect God on the supposed contradiction this would imply with the divine perfection.

Although God could not be changed by the world, He could change

¹⁵ Aquinas, ST, I, q.6, a.2 resp.1 and q.13, a.7 and q.28, a.1, resp.3 and q.28, a.4; Moltmann, 1985, p. 27-28: I think Moltmann argues rightly that the reason why the difference of God has been overstressed in the Christian tradition may also be related to the fact that this tendency was already present in the Old Testament. What has often been overlooked - according to Moltmann - is the fact that this was not intended to downplay the relationality or immanence of God, but only to make a clear move away from the strong immanence that was prevalent in the pantheistic, matriarchal, and animistic religions of the writers' neighbouring peoples. As a consequence, the Old Testament stories have been decontextualised.

¹⁶ Aquinas, ST, I, q.13, a.7: The same idea is expressed differently in q.6, a.2: *"Relatio autem qua aliquid de Deo dicitur relative ad creaturas non est realiter in Deo sed in creaturis, in Deo vero secundum rationem, sicut scibile relative dicitur ad scientiam non quia ipsum referatur sed quia scientia refertur ad ipsum."*

the world. God could not act against the immanent order of nature, because this order had received autonomy with its creation, but He could intervene in this order whenever He wanted to.¹⁷ While God's actions (as *causa prima*) are normally mediated by the *causae secundae*, God can act also immediately (without mediation) by performing miracles.¹⁸

It is far from clear how Aquinas can maintain both the autonomy of worldly events and his view that there is an all-determining divine providence. Although Aquinas argues for example for the view that humanity has free choice (*liberum arbitrium*), it is not clear whether in the making of a choice there really is freedom.¹⁹

1.2. Classical Theism Reflected in Aquinas' 'Ecological Ethic'

In what follows it will become clear that Aquinas' metaphysical framework is reflected in his 'ecological ethic', and that there

¹⁷ Aquinas, ST, I, q.105, a.6 and a.7.

¹⁸ Similar views are not absent from contemporary theology, so for example Barth, 1950, III, p. 146: "*Dass er (= Gott) ... ein wirkliches, ein ontisches Gesetz des geschöpflichen Geschehens durchbreche oder gar aufgebe, ist natürlich ausgeschlossen: das würde ja bedeuten, dass er in seinem Wollen und Wirken mit sich selbst uneinig wäre. Wohl aber wird man es ihm erlauben müssen, an den uns bekannten Gesetzen, d.h. an unserem Verständnis der ontischen Gesetze des geschöpflichen Geschehens u.U. rücksichtslos vorbeizugehen. Es besteht kein Anlass, sich zu wundern, wenn insbesondere in der Bezeugung der Geschichte des Gnadenbundes ... auch von Wundern die Rede ist, wenn eine rein historische, d.h. eine auf unsere Ordnungsbegriffe aufgebaute Betrachtung sich dort also unmöglich erweist.*" Although it may not be impossible to conceive of such divine interventions, what is left unexplained is how we could conceive of them, given the fact that the world does not provide evidence for an omnipotent God who can break into the normal order of things.

¹⁹ Aquinas, ST, I, q.22, a.4 and I, q.83, a.1 (especially *ad tertiam*).

is a significant correlation between classical theism and strong anthropocentrism.

Some animal liberation activists and ecological ethicists, such as for example Peter Singer, have concluded that Aquinas wanted to recommend a friendly relationship towards nonhuman animals **only** because cruelty to them could lead to cruelty to human beings or could have negative effects for the owner of the animal (his/her property being harmed).²⁰ This is held to be shown by the following passage (out of which Singer quotes a small fragment):

"Quantum vero ad affectum passionis, movetur affectus hominis etiam circa alia animalia, quia enim passio misericordiae consurgit ex afflictionibus aliorum, contingit autem etiam bruta animalia poenas sentire, potest in homine consurgere misericordiae affectus etiam circa afflictiones animalium. Proximum autem est ut qui exercetur in affectu misericordiae circa animalia, magis ex hoc disponatur ad affectuum misericordiae circa homines: unde dicitur Proverb. 12: 'Novit justus animas jumentorum suorum: viscera autem impiorum crudelia;(...)." ²¹

One could argue, contrary to Singer, however equivocally, that the text preceding "*proximum autem est ut*" is relatively autonomous to what follows. In that case, it makes sense to hold that Aquinas did believe we could really care about animals for their own sake.²² The same ambiguity underlies the interpretation of the passage where Aquinas refers to the Old Testament prohibition to eat blood in Gn 9,4: "*(...) prohibitus est eis esus ... sanguinis quidem, tum ad vitandam crudelitatem, ut*

²⁰ Singer, 1990, p. 6, 194-196; Passmore, 1975, p. 201.

²¹ Aquinas, ST, Ia IIae, q.102, a.6.

²² A similar view is suggested by Attfield, 1983a, p. 379.

detestarentur humanum sanguinem effundere".²³ The question rises whether the need to avoid cruelty has to be understood with respect to **humanity only**. The answer to this question is found a couple of lines further, where Aquinas reflects on Leviticus 19,26:

*"Et propter hoc etiam prohibitum est eis comedere animalia suffocata vel strangulata: quia sanguis eorum non separaretur a carne. Vel quia in tali morte animalia multum affliguntur: at Dominus voluit eos a crudelitate prohibere etiam circa animalia bruta, ut per hoc magis recederent a crudelitate hominis, habentes exercitium pietatis etiam circa bestias."*²⁴

From this text it is at least clear that Aquinas thought that one of the possible interpretations for the view expressed in Leviticus 19, 26, that something containing blood should not be eaten, is that the writer thought that the strangling of animals caused too much suffering.

A look at these texts might suggest that Singer is wrong in his view that Aquinas is an exponent of what we have termed strong anthropocentrism. Yet there is support for Singer's thesis in a passage (immediately preceding the passage mentioned above) overlooked by Singer.

Aquinas argues here that - as far as we think rationally - we do not have any obligation whatsoever towards the so-called **irrational creatures**:

"quod affectus hominis est duplex: unus quidem secundum rationem; alius vero secundum passionem. Secundum igitur affectuum rationis, non refert quid homo circa bruta animalia agat: quia omnia sunt subjecta ejus potestati a Deo, secundum illud Psal. 8 'Omnia subjectisti sub

²³ Aquinas, ST, IaIIae, q.102, a.6.

²⁴ Aquinas, ST, IaIIae, q.102, a.6.

pedibus ejus'. Et secundum hoc Apostolus dicit quod non est cura Deo de bobus: quia Deus non requirit ab homine quid circa boves agat, vel circa alia animalia."²⁵

We do not have to be merciful to an irrational creature

"(...) quia non est ejus proprie habere bonum (...)" and because "(...) creaturae autem irrationales non possunt communicationem habere in vita humana (...)" and "(...) quia charitas fundatur super communicatione beatitudinis aeternae, cujus creatura irrationalis capax non est (...)." Yet he acknowledges that "(...) possunt tamen ex charitate diligere creaturae irrationales sicut bona quae aliis volumus: inquantum scilicet ex charitate volumus eas conservari ad honorem Dei et utilitatem hominum (...)"²⁶

This is in line with his overall view that humanity is the goal of creation and "*praeest et dominatur naturaliter bestiis et pecoribus et universae creaturae quae non est ad imaginem Dei.*"²⁷ What we read here is a clear expression of the **instrumentalist** attitude towards nonhuman animals that has predominated in the history of Western culture. Similar views are found elsewhere, for example where Aquinas contends that providence has ordered everything for the sake of the intelligent substances ("*creaturae ignobiliores sunt propter nobiliores*"), or the **imperfect** for the **more perfect**, and that therefore cruelty to nonhuman animals is

²⁵ Aquinas, ST, IaIIae, q.102, a.6; The reference to the apostle is the well-known text in 1 Cor 9, 10-11 where Paul discards the Old Testament prohibition to muzzle an ox while it is treading out the grain on the assumption that God does not care for oxen. This text is frequently referred to as an illustration by those who argue that the Christian tradition is strongly anthropocentric. See for example Passmore, 1974, p. 16-17 where he contends that Paul combined the Judeo-Christian idea that humanity has dominion over the rest of nature with the Stoic view that irrational things exist for the sake of rational beings.

²⁶ Aquinas, ST, IIaIIae, q.25, a.3.

²⁷ Aquinas, ST, IaIIae, q.96, a.3.

tolerated.²⁸

The specific difference between human and nonhuman animals is spelled out in at least the following three ways.

Firstly, humans and nonhumans are held to be related to the natural law in different ways. Humanity shares an inclination to preserve one's being with all substances and a more specific inclination to procreate with nonhuman animals. But the third aspect of the natural law, the capacity to experience and gain knowledge about God and to live in a community, is reserved exclusively for humanity.²⁹

Secondly, the difference between sensory experience - which we share with other animals - and intellectual experience is related to their respective relation to matter:

*"(...) sensus visus, quia omnino materialis est, nullo modo elevari potest ad aliquid immateriale. Sed intellectus noster, vel angelicus, quia secundum naturam a materia aliquantulum elevatus est, potest ultra suam naturam per gratiam ad aliquid altius elevari."*³⁰

And thirdly, this implies that God governs human beings in a specific way, that is by attracting them as free agents to the good, while other animals are no agents:

"Hoc autem modo non gubernantur a Deo creaturae irrationales, quae tantum aguntur et non agunt. Cum ergo Apostolus dicit quod Deo non est cura de bobus, non totaliter subtrahit boves a cura gubernationis divinae, sed solum quantum ad modum qui proprie competit

²⁸ Aquinas, ST, Ia, q.65, a.2 and IIa IIae, q.64; Aquinas, SCG, III, c.112-113: Here, we find the famous paedagogic argument. Friendliness towards nonhuman animals is recommended because of its positive effects on our attitude towards other humans.

²⁹ Aquinas, ST, Ia IIae, q.94, a.2-3; Attfield, 1983c, p. 228, note 47.

³⁰ Aquinas, ST, Ia, q.12, a.4.

rationali creaturae."³¹

It may be argued, in conclusion, that Aquinas' metaphysics and his ethics downplay the significance of the material and natural (especially the nonhuman or so-called 'irrational') over against the spiritual, eternal, and rational world. The ideal of perfection is modelled on the degree of separateness from the material world, a position which is no longer tenable in the light of our contemporary, evolutionary understanding of the world. Although the scope of this thesis does not allow us to go into detailed historical research, it is clear that we should give Attfield quite a bit of credit where he stipulates that Aquinas' views have encouraged disregard of the nonhuman world and especially of nonhuman animals.³²

To illustrate this, I like to end this section by having a brief look at the teaching of one of the most influential theologians of our age, Pope John Paul II. Both his address at the World Day of Peace in January 1990, entitled *Peace with God the Creator, Peace with All of Creation*, wherein he deals most extensively with environmental issues, and the subsequent encyclicals on ethics, notably *Veritatis Splendor*, and *Evangelium Vitae*, are strongly anthropocentric and, as Northcott rightly remarks, "ecologically problematic" because "the moral presuppositions on which the Pope

³¹ Aquinas, ST, Ia, q.103, a.5, Resp. ad 2.

³² Attfield, 1983a, p. 379; Singer, 1990, p. 196: Singer illustrates this claim where he refers to Pius IX, who - in the middle of the nineteenth century - refused to give his permission for the installation of a 'Society for the Prevention of Cruelty to Animals' as this would imply that we had obligations towards animals. Let it be clear that the word 'animals' was used here to refer to 'nonhuman animals'.

relies (...) are exclusively focused on respect for human life, and the priority of human moral goods" and, as a consequence, divert the attention from the really important moral problems such as the ecological problems caused by the increasing world population to issues such as artificial birth control, which is described as intrinsically evil.³³

This is also illustrated remarkably well in a recent document that was published out of similar concerns as *Veritatis Splendor*: the *Catholic Catechism* of 1994. In paragraph 2415 we read:

"Animals, like plants and inanimate beings, are by nature destined for the common good of past, present, and future humanity. (...) Man's dominion over inanimate and other living beings granted by the Creator is not absolute; it is limited by concern for the quality of life of his neighbour, including generations to come; it requires a religious respect for the integrity of creation."³⁴

We are reminded here of the strong anthropocentric idea that we have direct duties only towards humanity and its justification in terms of the idea that there would be some 'natural' teleology for all nonhuman things to exist for the sake of humanity's purposes or 'common good'. What this boils down to is more or less this: addressing the question of nature's meaning is looking at how it can be commodified with humanity's meaning and purposes. What the phrase "religious respect for the integrity of creation" means in practice is clarified in paragraph 2417:

"God entrusted animals to the stewardship of those whom he created in his own image. Hence it is legitimate to use animals for food or clothing. They may be

³³ Northcott, 1996, p. 135-136; John Paul II, 1995a; John Paul II, 1995b; John Paul II, 1993, for example p. 123.

³⁴ Catechism, 1994, p. 516.

domesticated to help man in his work and leisure. Medical and scientific experimentation on animals, if it remains within reasonable limits, is morally acceptable practice since it contributes to caring for or saving human lives."³⁵

In other words: A free ride to a further exploitation and a continuation of our habit to ignore the intrinsic value of nonhuman nature! From these texts, it is by no means clear what the use value of nature should be limited by.

Northcott has, amongst many others, tried to argue that the natural law tradition on which the Pope relies depends upon

"a modern philosophical revision of this tradition, and in particular on the work of John Finnis and Germain Grisez, both of whom accept without challenge the divorce between natural order and moral order of modern scientific cosmology and modern moral philosophy".³⁶

Having said this, I think Northcott should have mentioned that these writings are not only "ecologically problematic", but also **theologically untenable**. The papal preoccupation with sexual ethics and with humanity may definitely be traced back farther than modernity to the distrustful attitude towards the body and the denial of the intrinsic value of the nonhuman world which are some of the features accompanying, and legitimated by, classical theism. If we elaborate further on this, I think we should also say that the papal stress on the unchanging nature of moral norms and on particular moral acts being intrinsically (that is: in all circumstances) evil betrays a concept of God that is strongly reminiscent of classical theism.³⁷ What is good and bad has been

³⁵ Catechism, 1994, p. 516.

³⁶ Northcott, 1996, p. 137.

³⁷ John Paul II, 1993, p. 82-83; Elsewhere I have argued that the attempt to harmonise the encyclical theory of '*intrinsece malum*' with earlier Catholic thought has - to a large extent -

determined once and for all. There is no change in God whatsoever: static moral norms go hand in hand with a static concept of God. And as God is clearly separated from the natural world, so is humanity from the nonhuman world.

1.3. Classical Theism and Its Connection with the Rise of Deism, Dualism, and Materialism

For the exploration of this theme we turn to Descartes as he was one of the key figures in the era wherein modern science was born, and it is in connection with modern science that we have to understand the emergence of deism, dualism, and materialism.

Descartes knew that the argument from design contained flaws and did not point unequivocally to the existence of an all-perfect Creator. Therefore, he reversed the procedure of philosophy radically.³⁸ The universe does not present any evidence for belief in God, but it is the nature of God as derived from ego-

been a case of *Hineininterpretierung*. Most significantly it has to be mentioned that the principle of 'double effect' - which was at least implicit in Aquinas and developed in the 16th and 17th century by the neo-thomists Medina, Vazquez, and Jean de Saint Thomas - has been ignored or distorted. See Deckers, 1993a and especially Ghos, 1950, p. 30-52.

³⁸ It is quite obvious that this move had been foreshadowed by earlier exponents of classical theism. There may be a strong link to nominalism and even further back to Augustine. The restriction of the meeting point of God and the world to the human will as pointed out by the latter and the similar stress on the transcendence of the divine will, the absoluteness of his freedom and hence the arbitrariness of his creation by the former paved the way for the Cartesian removal of purposiveness and moral significance from the external world and justified its exploitation for human ends. See for example Blumenberg, 1983, p. 136-143.

consciousness that provides the warrant for the existence of the material universe. In this way, a radical divide was drawn between human subjectivity, the mind, and ego-consciousness (*res cogitans*) on the one hand and the human body and the external material world (*res extensa*) on the other hand. The world was left godless and without creativity of its own. It was considered to be a mechanical system without purposiveness or teleology. By making this move Descartes paved the way for the increasing instrumentalisation of the world which is one of the consequences and, at the same time, justifications of modern science. He also pioneered a theology which soon came to be called **deism**: God was considered to be the great architect or '*le grand horloger*' of the world who, after having created the universe in a far distant past and having granted it its imposed laws for its functioning, retired and was no longer entertaining any relationships with it. As Barbour has pointed out, "the clock analogy (...) provided the basic interpretive image of the world as a perfect machine, autonomous and self-sufficient" which resulted in the fact that "divine preservation became passive acquiescence rather than active sustenance".³⁹

It may be remarked that this picture is not much different from the way we described classical theism. However, what makes classical theism different from deism is that for the former God could always interrupt the natural order by direct intervention, while for the latter the natural order has total autonomy (which

³⁹ Barbour, 1997, p. 22; The deistic view recurs in some contemporary physicists, for example Davies, 1984, p. 243.

was granted in a far distant past). Also, in the premodern world the classical theistic view of God was always somehow supplemented by the roles played by Jesus Christ and the Spirit. The relative absence of God the Father from nature was always counterbalanced by the relatively more present Son and Spirit. In the modern world, however, appeals to the presence of the last two were increasingly ruled out as the functioning of the natural world was alleged to be explicable entirely by reference to mechanistic laws. In fact, any reference to anything other than these laws proved to be highly problematic. The laws were supposed to be sufficient for explaining the phenomena, so that an appeal to divine intervention was either not necessary or not welcome. God created at the beginning, and retired afterwards. Moreover, the fact that it became more and more apparent that nature could not be perfect tarnished the argument from design. It is the conflation of the classical theistic tendency to stress on the separateness of God and the subsequent neglect of the doctrine of the Trinity which led to the modern prevalence of what Moltmann calls "*zentralistische(n) Theologien*" and to the modern scientific exploration and exploitation of the world.⁴⁰ Moltmann has argued that the fact that God was seen as not or hardly present in the

⁴⁰ Moltmann, 1985, p. 16; McIntosh, 1995, p. 6-7: McIntosh comes to the similar view that the reformation's "emphasis on God as a transcendent entity (...) must be carefully understood historically in the context of those exoduses - both actual and psychological - which constituted the Clearances in the Scottish Highlands, and the wider processes of land enclosure and consequent population shifts off the land elsewhere in Britain and the world". McIntosh also perceives rightly that, more particularly, the flourishing of Presbyterian theology led to an "obsession not with right relationship with nature and others, but with personal salvation" as a result of the fact that "a predestinarian theology of the elect cannot but have fear at its heart".

world and yet its owner led to an analogous understanding of humanity (*imago Dei*) as summoned to be the world's possessor. This strong anthropocentric attitude was individualised by reformation theologies which stressed the individual soul or mind, rather than the world, as the *locus* for the human encounter with God: not just humanity, but each individual was possessor of the world.⁴¹

According to Moltmann, this means that the possibility of conceiving of encountering or experiencing God has been limited severely since Descartes. Since Descartes wanted to work out a metaphysics that was as rigid as geometry, secure knowledge had to be verifiable and repeatable. Thus Descartes ruled out the possibility of the subject being fundamentally changed by unique and unrepeatable experiences. All receptivity had to be banned as it was often held that nature had to be forced to comply with the inquisitorial demands of human rationality. This resulted in an increasing homogenisation of the world.⁴² This has not only been regretted by Moltmann, but also by Whitehead, who wrote:

"Philosophy has been haunted by the unfortunate notion that its method is dogmatically to indicate premises which are severally clear, distinct, and certain; and to erect upon those premises a deductive system of thought. But the accurate expression of the final generalities is the goal of discussion and not its origin. Philosophy has been misled by the example of mathematics; and even in mathematics the statement of the ultimate logical principles is beset with

⁴¹ Moltmann, 1992, p. 28-30.

⁴² Moltmann, 1992, p. 28-30; It goes without saying that this homogenisation went hand in hand with a dualistic polarisation of the world. If we ask the same rigidity for metaphysics as for science, then any account of metaphysics that does not apply the same methods as science in its processing of data from the world is put at the opposite pole of 'positive knowledge'.

difficulties, as yet insuperable."⁴³

A closely related problem was described by Whitehead as the 'fallacy of misplaced concreteness': this is - as we mentioned before - the fallacy of thinking that we can understand nature in terms of its abstract properties rather than in its most concrete elements.⁴⁴

Thus we can see that the deistic rejection of the idea that God can temporarily interrupt the normal causal flow of events is the next step in the historical development of the classical theistic idea that God is a separate or abstract substance. This idea was also transferred to the non-divine substances by Descartes, so that we end up with **three types** of substances: God, bits of matter, and minds. This led to a dualism between mind and matter,

⁴³ Whitehead, 1978, p. 8: Reference is made here to Russell and Whitehead, 1910-1913, Introduction. In the writing of this work Whitehead became, indeed, aware of the fact that even a science as rigid as mathematics would seem to be, had to rely on unproven and unprovable axioms, a point that was made famous by Gödel.

⁴⁴ Whitehead, 1985, chapter three; Whitehead, 1978, p. 7-8; This 'fallacy of misplaced concreteness' is by no means only related to epistemological issues, but is for example clearly manifested in our cultural adoration of money as the abstract value *par excellence*. The German eco-politician Rudolf Bahro has more than anyone else linked this cultural preference with a deep alienation of people from one another and from nature. See for example Bahro, 1991, p. 49-50: "*Wir haben ja das Weltregiment aus irgendwelchen guten Gründen zu Ende des Mittelalters dem 'lieben Gott' weggenommen, d.h. natürlich den entsprechenden Instanzen alias Priestern und Königen, und haben es den Kaufleuten übergeben, in Wirklichkeit aber dem anonymen Geld.*"; Bahro, 1987, p. 134-135: "*Münzen, bits, Begriffe, Individuen, Arbeitskräfte, Atome, Quanten aller Art -alle unsere Welt- und Verhaltensmodelle stehen unter der Vorherrschaft dieser abstrakten Einheiten, die sich alle bis ins schlecht Unendliche massieren lassen.*"(...) "*Es handelt sich nicht darum, das Geld anders anzueignen und zu verteilen, sondern es überhaupt als Macht- und Steuerungszentrum des historischen Prozesses zu eliminieren.*"; For a fuller account of Bahro's observations, see Deckers, 1997, p. 15-25.

for both are separate substances where a substance is "an existent thing which requires nothing but itself in order to exist".⁴⁵ The idea of an underlying kernel that is not affected by change is presupposed by classical or Newtonian physics: the bits of matter are unchanging, and are totally devoid of experience and spontaneity. What is changing is their external relatedness, such as position and momentum.

Apart from his mind-body or subject-object dualism, Descartes supported also a dualism with regard to the objects of our knowledge. With Galileo, Locke, and many others, he differentiated between **primary** and **secondary qualities** in natural objects. Eventually, philosophers even started talking about **tertiary qualities**.

The primary qualities were those (such as mass, extension, position, and momentum) that belong to the objects intrinsically, that is, independent of any observation. These primary qualities were the 'facts' of physical reality. Whitehead commented on the way these primary qualities were perceived in the following way:

"In itself such a material is senseless, valueless, purposeless. It just does what it does do, following a fixed routine imposed by external relations which do not spring from the nature of its being".⁴⁶

Secondary qualities (such as colour, smell, taste, sound) are not part of the make-up of the objects themselves, but experiences (or representations, or ideas) that result when the sense organs of a perceiving subject are stimulated by some object. It is here

⁴⁵ Whitehead, 1930, p. 92. Reference is made to Descartes, 1911-1912, p. 51-52.

⁴⁶ Whitehead, 1985, p. 22.

that the role of the observer becomes important.

Tertiary qualities are values that subjects attribute to natural objects. The natural world or the world of 'facts' is without values on its own, as these qualities are entirely the product of the evaluating subject. According to Callicott, this fact-value dichotomy is "logically and historically ancillary" to "the Cartesian subject-object dichotomy".⁴⁷

Robert M. Young, the publisher and author of the foreword of the 1985 edition of Whitehead's *Science and the Modern World*, distinguishes the following dualisms in the modern world: matter-mind, primary qualities-secondary qualities, mechanism-purpose, physical-mental, physiological-psychological, science-arts, science-society, nature-culture, meaningless-meaningful, is-ought, positive knowledge-metaphysics, determined-responsible (free?). He expresses this in the following words:

"In formal philosophical terms, the language of final causes or purposes in Aristotelian explanation, was sequestered from formal, material and efficient causes. Thus the form or plan found its way in to modern science as formal relations, plans, formulae. The material cause found its way into the theory of matter, that out of which things are made or come to be. Efficient cause remains with us in the theory of agency, energy, motion. But the purposes, goals, uses and meanings got left outside the concept of scientific explanation - in the mind, in the church, in the domain of ethics, relative and subjective, while science was said to be objective, positivistically true."⁴⁸

In conclusion, we could say that the dualisms mentioned are historical and - to a large extent - logical consequences of the more fundamental classical theistic divide between God and the

⁴⁷ Callicott, 1985, p. 272.

⁴⁸ Whitehead, 1985, xiii.

world. In classical theism, God was either the supreme or the only teleological agent. To the rejection of God by atheism corresponds the rejection of dualism by materialism, as we will see in chapter two. All that is left then is one pole of the dualisms mentioned: as the ultimate units of nature are bits of matter (or matter-energy), the mental pole is understood in principle in terms of an understanding of its most elementary, material parts.

1.4. The Untenability of Classical Theism

There are a number of reasons which demonstrate why classical theism has lost its credibility. All of them, however, come down more or less to the following: our experience of the contingency and imperfection of the world does **not** lead to belief in a divine reality which is perfect and separate from matter. More specific problems, however, have to be addressed.

1.4.1. Classical Theism and the Problem of Creation

In the first place, if God creates **unilaterally**, then the created world totally depends on the Creator. If the Creator is beyond change, then the world does not influence God, but God determines the world. Even if secondary causes come into play, it seems impossible to conceive of their autonomy. If the world does not add anything to God, does it then not become completely irrelevant? If this were the case, why should we worship God? A God who cannot be touched by the world may not be a proper object of worship at all. This conception of God is incompatible with

the view of God as Love that is expressed in some biblical texts, such as for example in the gospel of John. This is so because, in the words of Pailin,

"to hold that God is in all respects unchanging is to deny that God's 'love' has the varying responsiveness that is part of what it is to 'love' in actual practice."⁴⁹

1.4.2. Classical Theism and the Problem of Evil

Secondly, there is the problem of evil. This is the object of theodicy. How can we justify belief in a good God when the world is characterised by so much misery, suffering, and cruelty? Until modernity, belief in the order and beauty of the natural world had always been confirmed in accordance with and used as proof for the **omnipotence** of God, and when things went horribly wrong, it was only held to do so at first sight (see for example the 'solution' of the theodicy problem in the book of Job). As the reality of natural disasters such as for example the earthquake in Lisbon in 1755 (which caused Voltaire to doubt the existence of God) and of the 'struggle for life' could increasingly no longer be suppressed, belief in a God who was alleged to be, in every respect, almighty and all good, faded away.⁵⁰ Denis Diderot,

⁴⁹ Pailin, 1994, p. 70.

⁵⁰ Following a quote from Isaiah 5, 8-10 Northcott writes: "The devastation of the land is not only seen as the judgement of a wrathful God. It is also interpreted as the consequence of the human rebellion against the created order and wisdom of nature." (Northcott, 1996, p. 171) I cannot agree with the view - found in some Old Testament texts - that natural disasters are the outcome of judgements of a wrathful God, but ecological devastation may result from not worshipping God. Natural disasters happen in spite of, not in accordance with the will of God. Elsewhere, Northcott acknowledges that it is not straightforward

for example, argued, from the specific case that there are blind people and from his general perception that the evolutionary process also includes degradations, that the universe may be explained by reference to the anonymous force of Dynamic Matter itself rather than by reference to God.⁵¹ Yet even today many theologians argue that God must have a perfectly good reason for allowing these evils. They argue that we can know this without having the faintest inkling as to what reason God may have, because we know that God is good and lack the capacity to fathom his reasons due to our humble and finite status. I agree with Griffin that "this kind of argument ... is viciously circular. The so-called knowledge is based entirely on faith - a faith, in fact, that is insulated from the possibility of falsification".⁵² Even the idea that God allows evil out of respect for the freedom of natural events (the idea of God's self-limitation) is unacceptable.⁵³ I agree with Pailin, where he protests:

at all to link the moral order directly to the natural order: "Causative links between human moral behaviour and natural order such as those adhered to by the Hebrew prophets are surely only possible in a primal world-view which substitutes magic for the scientific understanding of natural cause and effect." (See Northcott, 1996, p. 245). Just as natural disasters should not be regarded as in accordance with God's will, so shouldn't sacrifices. The practice of sacrificing animals that is reported or advocated in some Old Testament texts may not be an appropriate way to give back to God what has been given. Northcott's assertion that the need for animal sacrifices is ultimately abolished by Jesus' blood betrays a concept of God as a being in need to be cooled down once a while by making some horrible things happen in the world. (See Northcott, 1996, p. 185-187).

⁵¹ Van der Veken, 1992a, p. 7-8.

⁵² Griffin, 1998c, p. 73.

⁵³ See for advocates of this view for example Plantinga, 1974 and Jonas, 1994, p. 206 who refers to the idea of 'Zimzum' in the Jewish Kaballa; Oomen, 1998b, p. 114: Oomen sees rightly that this model is only a variant of the model of God as intervening: to

"By minutely altering a DNA sequence (...) it is arguable that God could prevent the birth of a Pol Pot or the development of cancerous growth! That God fails so to act makes it seem reasonable to doubt his goodness if his wisdom and power to be able to do such things have been correctly understood."⁵⁴

Indeed, it seems to be the case that His/Her wisdom and power have not been correctly understood, which brings us to the next point.⁵⁵

1.4.3. Classical Theism and the Problem of God's Omniscience

Thirdly, if God is unchanging, His/Her consciousness has to be understood as either an unchanging state of **self-contemplation** or a knowledge of the world that knows **from all eternity** that which will happen only contingently, or God having **foreknowledge**.⁵⁶ While the model of the *deus otiosus* makes all talk of relationships between God and the world impossible, the idea that God is absolutely omniscient or that all events are foreknown by His/Her providence cannot be reconciled with our sense of freedom and with the view that not even subatomic particles are completely determined. It also clashes with the religious experience of some people who experience God at work in history and who realise that what they do matters or can make

omit acting is a form of acting, which shows that what has been given up is not the power to intervene, but the practice of intervening.

⁵⁴ Pailin, 1984, p. 291.

⁵⁵ I will use the male and the female pronoun for God. Although Whitehead only used the male pronoun, it is now more common in process theism to use both genders.

⁵⁶ The latter option was defended by Aquinas. See for example Aquinas, ST, I, q.14, a.13.

a contribution towards God, a self-transcending reality. If God is '*actus purus*', there is no potentiality in God whatsoever, and it is inconceivable how this can be reconciled with a view in which God really receives something from the world, which would contribute to the divine knowledge.

1.4.4. Classical Theism and the Problem of Divine Intervention

Fourthly, since the brink of modernity it has become increasingly difficult to authorise special divine interventions by reference to miracles (which were held to be interruptions of the normal natural order). This was highly problematic for many Christian apologists as until then miracles had been the standard proof for divine revelation. Progress in the scientific understanding of the natural world made it difficult to entertain belief in special divine interventions. Also, the historicity of the miracles became a problem and more people became aware of the fact that miracles could be interpreted in different ways.⁵⁷ More and more people became increasingly aware that the credibility of such surprising events as for example the miracles in general and the resurrection in particular, does not reside in their giving a true account of past events, but in their receiving a significance by what we experience now as God's activity in history.⁵⁸ It was the growing scientific success to explain events without reference to God, especially those events which had previously been explained in terms of special divine interventions or **breaches** into the normal

⁵⁷ Pailin, 1994, p. 37.

⁵⁸ Pailin, 1994, p. 166-177.

course of natural events which made belief in this God difficult to sustain.

1.4.5. Classical Theism and Ecological Ethics

Finally, classical theism is highly problematic for its implied **strong anthropocentric** ecological ethic. Indeed, the fact that matter, body, exteriority, and nonhuman nature have often been disregarded as they were supposed to be ontologically lower than respectively form, soul, interiority or mind, and humanity, has fostered a solipsistic ethic which reduces the nonhuman world to a homogeneous space devoid of significance apart from its use value for humanity or - more narrowly conceived - for the ego.⁵⁹ In the light of an evolutionary understanding of the world, it makes no sense to argue that the incredible variety of nonhuman species has been designed for the good of human beings only.

⁵⁹ Northcott, 1996, p. 215: See also Blumenberg, 1983, p. 152 ff.

Chapter Two: The Case for Panexperientialism

2.1. What Is Process Thought?

The Ramsgate born mathematician, logician, scientist, and philosopher **Alfred North Whitehead** (1861-1947) developed a new philosophy at the beginning of this century: his '**philosophy of organism**' was a reaction against scientific materialism.¹

The particular strand of philosophy which follows the footsteps of Whitehead and of his pupil **Charles Hartshorne** (°1897) is also commonly referred to by the name '**process thought**'.

Process theism is that aspect of process thought which focuses on theology. Process theists, or process theologians, however, are often simply referred to as process thinkers. There is a good reason for this: they recognise that for process theism to be successful an encompassing Whiteheadian worldview is required. This relates to the fact that Christian process theists argue that, when a conflict arises between Christian theology's appropriateness and credibility, it is the question of credibility which is decisive. This requires more explanation.

Shubert Ogden, one of the pupils of Hartshorne, maintains that Christian theology, in order to be such, should satisfy two

¹ Whitehead, 1985, p. 130: What is essential in an organism is that it has an intrinsic and an extrinsic reality: it prehends or grasps other organisms in its **process** of becoming and is prehendend or grasped by other organisms once it has become. What makes Whitehead's philosophy distinctive from scientific materialism, then, is that Whitehead argues that the ultimate units of nature (which are also called events or actual entities/occasions) have a self-determining aspect.

criteria of adequacy, these being appropriateness and credibility. The former demands that a Christian theology must be appropriate to its meaning as judged by its apostolic norm. Sometimes this is widened to the contents of scripture and tradition. The criterion of credibility requires Christian theology to be so formulated that it is credible to human existence as judged by reason and common experience.² Pailin rightly remarks that the fundamental problem with a theological choice, in case of conflict, in favour of the former, is that it "imposes a meaning upon reality (or, at least, more or less desperately tries to uphold a particular interpretation) rather than discloses its fundamental character".³ Since process theism may be seen as a

² Ogden, 1982, p. 4; Pailin, 1994, p. 42, 48: Pailin adds two further criteria to Ogden's pair, being that of significant relevance and that of pragmatic effectiveness. While the former requires that theological claims should be meaningful to how people actually live (empirical fit), the latter requires that they work in practice by providing what they promise. In my opinion, these two criteria may also be understood as part of a wide sense of the criterion of 'credibility'; Van der Veken, 1992a, p. 2: The Belgian process thinker Van der Veken, for example, puts up a very clear defense of the role of reason. I agree with him where he reacts against Buckley's idea that the basic mistake of the early Christian apologists, for example Lessius and Mersenne, in reaction against the emergence of modern scepticism and atheism was that they turned the issue into an exclusively philosophical discussion and left out appeals to historical revelation. Van der Veken rightly contends, contrary to Buckley, that they had very good reasons for making this decision, for a religion which advocated intolerance, persecution and religious wars could hardly be more than superstition for the early 'free thinkers'. This is why the whole discussion would have been undermined had revelation been appealed to. The real reason why these apologists failed, therefore, was related primarily to the fact that their theological framework showed a static stubbornness in failing to encompass the new understandings of the natural world as developed by modern science. For the ideas of Buckley, see Buckley, 1987.

³ Pailin, 1994, p. 42, 63-64: A possible objection to this may be that what is rationally disclosed about the fundamental character of reality, may not be Christian. However, Pailin answers that, if Christians agree that the final norm for its

movement which gives more weight to a theory's credibility, we can understand why a great openness is shown towards other disciplines. This may be perceived immediately, for example, by those who join the discussion group of process philosophy on the worldwide web: theology meets evolutionary theory, quantum theory, theory of relativity, sociobiology, sociology, and so on⁴ One of the central ideas in process thought is panexperientialism, which will be presented anon.

2.2. Panexperientialism Introduced

Whitehead considered one of philosophy's main objectives to be to explain how *causa finalis* and *causa efficiens* can be thought

faith is the reality and will of God as the axiologically Ultimate (and so, among other things, as incorporating all that is true in the sense of having real value), then: "What makes a commitment peculiarly Christian, perhaps, is that the perception of what seems to be true has arisen in and to some extent, therefore, been moulded by images and insights that are found in what is regarded as the Christian tradition."

⁴ Another reason for this wide range of scope may be the fact that Whitehead was aware of the fact that even a science as 'rigid' as mathematics is undergirded by metaphysical assumptions; It must be clear that one of the main objects of this thesis is the attempt to propose a theology that enters into a serious dialogue with contemporary scientific developments. This is partly motivated by my view that our lack of ecological concern is the consequence of a consciously and unconsciously persisting classical theistic metaphysical framework that sticks to an outdated dualistic worldview and resists the more monistic approach to reality as a whole that has been developed since modernity. I agree with Van der Veken where he states that "(...) the fact that theology did not engage in a serious dialogue with those new ways of seeing the world is according to my understanding the basic reason why theology, which was once the queen of the sciences, lost almost completely all credibility. Any science has to face radical conceptual changes. Theology will regain its intellectual vigor only when it learns to face change in the same way as any science does. And the first and most basic required conceptual change concerns our very concept of God." (Van der Veken, 1992a, p. 11).

together.⁵

He was not happy with the way this issue was resolved in the dominant philosophy that was in vogue at the time of his life. Mechanicism or scientific materialism ignores or denies that there is such thing as final causation and conceives of nature as a purposeless system with efficient causation only. Present effects are completely determined by past causes, and can be sufficiently explained by reference to them and by reference to unchanging laws which govern the state of affairs in the world.

Scientific materialism is also - as we have seen before - reductionistic: all complex systems are determined only by their components, that is: bits of matter (or matter-energy).⁶

This philosophy shares one of the assumptions that has dominated Western thought for over two thousand years: the idea that the 'object model' can reveal the deeper structure of reality. At its most basic level, the world is a collection of substances which are enduring, and only externally related to one another: they only change their positions relative to one another. In this situation, two options remain: either there is efficient causation or there is final causation, but not both. This is so because for both to be thought together matter cannot be continuous, as we will argue further below.

Scientific materialism, then, is the theory which allows for efficient causation only. But another philosophy which has been

⁵ Whitehead, 1978, p. 84.

⁶ An example is Kim, 1993: His reductionism is apparent where he writes that "macrocausal relations should be viewed as in general reducible to microcausal relations" (p. 99) and that "what is physical determines all the facts of the world" (p.XV) implying that "what is physical" relates to what is described by physics.

of some importance in Western history is - as seen before - dualism: it holds that scientific materialism may be a good theory for material substances, but not for the world of the mind or the spiritual world (exemplified for example in Leibniz' windowless monads): this world would be governed by final causation (self-determination in the sense of determining one's own goal or end) only. Sometimes both were supposed to run parallel to each other in a way that was left entirely to mystery.⁷

His reflection upon quantum physics and evolutionary theories brought Whitehead to the idea that the notion of 'substance' as that "which requires nothing but itself in order to exist" is inappropriate as a category to understand the world: "There is no entity, not even God, 'which requires nothing but itself in order to exist'."⁸ Since there is no such thing as an unchanging substance, it is better to see the world as a collection of 'actual occasions', also called 'actual entities'. With this notion the fact that all entities have temporal and spatial

⁷ Griffin, 1998c, p. 157-158.

⁸ Whitehead, 1930, p. 94; Whitehead, 1985, p. 45: Whitehead argues that "physics is troubled by the quantum theory", but that "one of the most hopeful lines of explanation is to assume that an electron does not continuously traverse its path in space. The alternative notion as to its mode of existence is that it appears at a series of discrete positions in space which it occupies for successive durations of time. It is as though an automobile moving at the average rate of thirty miles an hour along a road, did not traverse the road continuously; but appeared successively at the successive milestones, remaining for two minutes at each milestone". It became clear to Whitehead that the basic units of nature must have a minimal duration and that there can be no 'nature at an instant' or actual infinitesimals, and that electrons, for example, while apparently enduring, are spatially and temporally structured societies of these basic units. (Griffin, 1998c, p. 157)

extensions is stressed, which has important implications for understanding the connection between mind and matter. Every actual entity is a moment of determination or a point of 'decision' where one determinable state is 'cut off' and other possibilities are renounced.⁹ Novelty appears because these actual entities realise themselves constantly by choosing from a realm of possibilities. This is what Whitehead means when he says that all actual entities are "transcended by the creative urge".¹⁰ The actual entities are the outcome of a process that involves both efficient and final causality. While **efficient causation** relates to the actual entity as the outcome (the physical pole or superjective mode) of a transition between other actual entities, the latter is associated with the entity's subjective synthesis as its moment of **self-causation** or self-creation (the mental pole or subjective mode). Without self-causation there would be no way in which the multiplicity of past actualities could be unified. This moment is the realisation of one among a manifold of possibilities, which function as goals or aims (**final causation**). These possibilities are the **eternal objects**, of which Whitehead says that they "are such that they are exemplified in everything that is actual, according to some proportion of relevance."¹¹ So it is clear that the existence of teleology in nature does not exclude the operation of efficient causes. It is quite obvious that not all possibilities for novelty can be realised. Each actual entity is,

⁹ Whitehead, 1978, p. 43.

¹⁰ Whitehead, 1933, p. 249.

¹¹ Whitehead, 1930, p. 78; Whitehead, 1978, p. 22; In the next chapter we will argue against the existence of these 'eternal objects'.

to some extent, determined by past actual entities in its feeling or 'prehension' and is itself, to some extent, determining the feeling or prehension of the future actual entities.¹² Reality is a continuous realisation of possibilities and novelty wherein the old and realised is taken along. This is in line with what the verb 'to prehend' means: to engulf, perceive, and transform.¹³ Sometimes this is also called 'perceptivity' or 'apprehension'. The 'ap' in the latter has often been removed to indicate that the 'taking account' of another is not always conscious or - in Whitehead's terminology - cognitive. The word prehension is a useful concept as it combines the scientific concept of causation with the notion of perception of phenomenology. To say that X causes Y is to say that Y prehends X. Perceptivity is defined also as the graded grasping of the elements of the universe into the unity of one actual fact.¹⁴ Each actual entity is only relatively individual as it is part of a social process in which it is affected by past actual entities and in turn influences, as 'superject', future actual entities.¹⁵ Yet it is relatively individual as it decides its own form in isolation from its contemporaries. It is a direct consequence of relativity physics

¹² Whitehead, 1978, p. 23: Although we may use the terms 'feeling' and 'prehension' interchangeably, Whitehead also notes a technical difference: While positive prehensions are termed 'feelings', negative prehensions exclude their data from feeling.

¹³ Whitehead, 1985, p. 85; Hartshorne, 1972, p. 126: Hartshorne has noted that Whitehead's originality consists in the fact that he has linked two previously unrelated psychological phenomena in the concept of prehension: perception and memory.

¹⁴ Whitehead, 1985, p. 86-87; Whitehead, 1930, p. 135.

¹⁵ Whitehead, 1978, p. 87; Whitehead, 1985, p. 218-219.

that contemporary occasions cannot causally interact.¹⁶

Although Whitehead did not use this terminology himself, it is appropriate to hold that this view entails what has been called 'panexperientialism', 'panvaluism', 'panaestheticism', or 'pansubjectivity'.¹⁷ Since Whitehead was careful to avoid the view that all actual occasions possess a central nervous system and consciousness, he did not use the existent term 'panpsychism'. When he was asked whether his philosophy of organism involved panpsychism, he wavered and answered: "Yes and no".¹⁸ His doubt may also be related to the fact that the term panpsychism has negative connotations with primitive or naive animism. Yet it is clear that his system verges on panpsychism as not only human beings, but all actual entities - to varying degrees - contain the capacity for self-determination. What characterises the actual entities, also called 'epochal occasions', is self-interest or the feeling of self-valuation, which is similar to Naess' understanding of self-realisation: "the actuality is the enjoyment, and this enjoyment is the experiencing of value."¹⁹

¹⁶ Whitehead, 1933, p. 248-255; Whitehead, 1930, p. 79: "But each unit has in its nature a reference to every other member of the community, so that each unit is a microcosm representing in itself the entire all-inclusive universe."

¹⁷ Barbour, 1997, p. 288.

¹⁸ McHenry, 1995, p. 2: McHenry holds that the notion of prehension makes it essential to call Whitehead's view 'panpsychistic idealism' ('idealism' here not taken as the doctrine holding that nature depends on the mind, but as the view that natural entities must be regarded as having sentient experience). Ford, 1995, p. 16 remarks that McHenry should have spoken of 'pansentience' since mentality presupposes sentience, but not vice versa.

¹⁹ Whitehead, 1930, p. 87.

With Griffin, it is better to label this view as panexperientialism rather than panpsychism. Griffin gives two reasons for this. Firstly, since 'psyche' suggests - as we indicated - experience at higher levels, which may also be termed mind or consciousness, it may be better to call Whitehead's notions of the 'physical pole' and the 'mental pole' - which he sees as two poles constituting all entities - the 'receptive' and 'self-creative' phases of experience. Self-creativity occurs even when there is no mind.²⁰ Mentality presupposes experience and sentience, but not *vice versa*. In other words: panexperientialism does not hold that neurons or molecules are conscious, but that they have experience. An experiential unit is here understood as an unit which is affected by the world and which responds to the world in a self-determined or self-creative way. A second reason is that the notion 'psyche' is often understood - unfortunately - as presupposing an enduring substance, while experiential units may be momentary.²¹

A creation which would happen without the cooperation of creatures is inconceivable for Whitehead, who does not hesitate to speak of the creature "determining its own self-creation" or of the "self-creating creature".²² This clashes with classical theism,

²⁰ Griffin, 1988b, p. 154; The notion 'panexperientialism' was introduced in Cobb and Griffin, 1977.

²¹ Griffin, 1998c, p. 78.

²² Whitehead, 1978, p. 69; Whitehead, 1930, p. 89; Some authors have argued that it is inappropriate to speak of 'self-creation' as it discards the distinction between God and the world. See for example Bauckham, 1996, p. 125: Although I understand Bauckham's concern that speaking of co-creativity may lead to human aspirations to divinity and to the expansive hubris

as has been pointed out well by Hartshorne:

"Since teleology has been thought of as unilateral creativity on the part of the deity, unshared in any appreciable degree with the creatures, indications that the world had far reaching potentialities for self-creation were naturally startling."²³

Although a Whiteheadian framework does not exclude the view that the teleology of the universe is influenced by God - as we will argue in the final chapter - what it does exclude is the view that the teleology of the world is totally dependent on God's providence. We cannot abstract from the actual entity's self-determination.

The notions self-valuation, self-determination, and self-creation are all dependent upon Whitehead's fundamental concept of prehension. Physical prehensions refer to a reproduction of the past, while mental prehensions relate to the realisation of new possibilities: "The most complete concrete fact is dipolar, physical and mental. But (...) the proportion of importance, as shared between the two poles, may vary from negligibility to dominance of either pole".²⁴

In *Science and the Modern World*, Whitehead stresses the fact that

that has pervaded modern Western society to subjugate and exploit the non-human world for our ends, this does not necessarily have to be the case. Speaking of co-creativity may well go hand in hand with a sense of deep awe and respect for the givenness of the world; Griffin, 1988b, p. 154: It is Griffin's suggestion to substitute Whitehead's terms of a 'physical pole' and a 'mental pole' by respectively 'receptive' and 'self-creative' phases of experience as the latter is present even when there is no mind.

²³ Hartshorne, 1962, p. 209; Another example which shows that this view clashes with a classical theistic view is Bauckham, 1996, p. 125: "We are not co-creators with God."

²⁴ Whitehead, 1930, p. 104-105.

the mental pole of the 'events' (here used instead of the term 'actual occasions') should not be overlooked in any description of reality:

"Remembering the poetic rendering of our concrete experience, we see at once that the element of value, of being valuable, of having value, of being an end in itself, of being something which is for its own sake, must not be omitted in any account of an event as the most concrete actual something. 'Value' is the word I use for the intrinsic reality of an event. Value is an element which permeates through and through the poetic view of nature. We have only to transfer to the very texture of realisation in itself that value which we recognise so readily in terms of human life. This is the secret of Wordsworth's worship of nature. Realisation therefore is in itself the attainment of value."²⁵

The interpretation of the notion of 'value' in this text has been the object of an interesting debate, of which I mention only the main thrust.

According to Lewis Ford, Whitehead understood value in terms of 'experienced as valuable by others' before he developed his mature theory of '**concrescence**' (= the process in which the universe of many things acquires unity) in *Process and Reality*. Ford contends that there is a *prima facie* case here to understand this passage in its immediate context, which is the chapter on 'The Romantic Reaction'. This chapter is a reaction against scientific materialism which describes nature in terms of space, time, and matter, and regards value as extrinsic to natural events or humanly imposed. Whitehead reacts to this by speaking of **intrinsic value**, thus sharing the romantic point of view in which value is discovered in things.²⁶ In other words, Ford holds that Whitehead

²⁵ Whitehead, 1985, p. 116.

²⁶ Ford, 1995, p. 27.

did not support the view that all actual occasions value themselves at this point, and that the text merely points at the fact that humans can have at least "two different estimates of value with regard to the reality of events".²⁷ This interpretation is contested by McHenry, who holds that Whitehead supported panvaluism or pansubjectivism throughout.

Whatever be the case, it is clear that pansubjectivism was not far from Whitehead's mind at the time he wrote *Science and the Modern World*, as one year later, in *Religion in the Making*, he wrote: "Value is inherent in actuality itself. To be an actual entity is to have a self-interest. This self-interest is a feeling of self-valuation; it is an emotional tone".²⁸ Also, it is evident that an actual entity can only have a self-interest or a feeling of self-valuation if it has subjectivity!

McHenry has argued that Whitehead's account is open to the **pathetic fallacy** or the charge that attributes that are exclusively human are ascribed to nonhuman nature, concluding that panpsychism may be too large a price to pay in any attempt to bridge the gap between human consciousness and the rest of nature.²⁹ For my part, however, I believe it is simply impossible to conceive of the facts of both cosmic and biological evolution without making the assumption that there are vestiges or precursors of human subjectivity in nonhuman nature. I agree with

²⁷ Ford, 1995, p. 27; We can think here of the difference we made earlier between instrumental value for us and instrumental value for nonhuman entities (inherent value).

²⁸ Whitehead, 1930, p. 87.

²⁹ McHenry, 1995, p. 10-11.

Griffin's elaborate defense of panexperientialism, and will show below that it can be defended against charges made by both materialist and dualist philosophers.

2.3. The Dualist and Materialist Charges Against Panexperientialism

The **dualist charge** boils down to this: panexperientialism is untenable because we know that the nonhuman world is largely devoid of experience and the behaviour of most nonhuman entities lacks freedom or self-determination. Therefore, panexperientialism cannot provide an adequate account of the uniqueness of the human subject. It does not explain **how** our intuition of **free will can be derived from** a world ruled by **mechanical laws**, and since no theory does show how this can happen, we have to accept dualism. Dualism is defined well by Griffin as the view that matter and mind are not only numerically distinct, but also **ontologically different** in kind. While the mind is without spatial extension and temporal, matter is spatially extended and can exist at an instant, not needing a lapse of time. While the mind has an inner reality or 'inside' (Sartre's *pour soi*) and exerts final causation by means of its self-determination, matter is only 'outside' (Sartre's *en soi*) and exerts only efficient causation.³⁰

The **materialist charge** agrees with the dualist charge that it is,

³⁰ Griffin, 1998c, p. 46-47; In section 2.6. (on panexperientialism and pantemporalism) it will become clear that the view that the relationship of mind to time is different from the relationship of matter to time is untenable.

indeed, impossible to explain our intuition of free will from the operation of mechanical laws. But instead of holding that the mind - as the instantiation of free will - is distinct from the brain, it makes more sense to hold that our conception of free will is nothing but, in the words of Ruse, an "illusion fobbed off on us by our genes".³¹ Also, our experiences have to be understood as very complex organisations of bits of matter, which are in principle explainable by them. According to materialism, there are no grounds for positing the mind as numerically distinct from the brain. The mind only arose as an **epiphenomenon** of the activity of the brain at some late point in the evolutionary process.³²

2.4. The Panexperientialist Answer to Dualism and Materialism

Dualism is rejected for it goes against the principle of **continuity**. In an **evolutionary understanding** of the world, there can be no sudden jumps in kind. This means that dualism cannot be accepted as the mind cannot be different in kind from the entities out of which it emerged, or in the words of McGinn: "consciousness cannot just spring into existence from matter like a djinn from a lamp".³³ It also means that some differences in degree must be considered implausible: a pig, for example, does not emerge directly out of an amoeba. Furthermore, dualism does not provide any room for **causal interactions** between mind and body, and therefore does not explain how two supposedly totally

³¹ Ruse, 1993, p. 506.

³² See for example Kim, 1993, p. 95.

³³ McGinn, 1999, p. 47.

different things could influence one another.³⁴ To avoid this problem, we could listen to the materialists, who suggest that the mind is explicable, at least in principle, in terms of the interactions that are taking place within the body. However, we know from common sense that we are not fully explainable in those terms. Even if we could explain all the interactions of the components of our bodies, we feel that our mental life still remains unexplained. Therefore, it may be worthwhile to reconsider the rest of the universe in the light of the way in which we know ourselves: as individuals with freedom.

Indeed, we know this as - in the words of Whitehead - "we must bow to those presumptions which, in despite of criticism, we still employ for the regulation of our lives".³⁵ Following Griffin, we can make a distinction between soft-core common sense and hard-core common sense presumptions. **Soft-core common sense** notions, for example that the sun revolves around the earth, have been and will be falsified by science. But we can not get rid of our **hard-core common sense** notions, because these are presupposed by the practice of science itself.³⁶ The difference between the two types of common sense has also been recognised by Searle. Griffin quotes Searle where he recognises that with regard to, for example, the belief that the earth is flat,

"it is possible to give up a commonsense conviction because the hypothesis that replaces it both accounts for the experiences that led to that conviction in the

³⁴ Griffin, 1998c, p. 30-31, 49-51.

³⁵ Griffin, 1998c, p. 17; Whitehead, 1978, p. 151.

³⁶ Griffin, 1998c, p. 17-19.

first place as well as explaining a whole lot of other facts that the commonsense view is unable to account for.... But we can't similarly give up the conviction of freedom because that conviction is built into every normal, conscious intentional action".³⁷

Yet Searle concludes that since there is no place for the freedom of the will in science, it therefore must be an illusion, a position which has been summarised accurately by McGinn: "he maintains that states of consciousness, which are what intentionality depends on, are just biological properties of the brain".³⁸ With Griffin we argue, against Searle and more generally against materialism, that our intuition of free will is not an illusion, but a notion that is supported by our hard-core common sense.³⁹ Even stronger:

"The idea that the units of the physical world, such as electrons and living cells, are 'insentient', in the sense of being wholly devoid of experience of every sort, is one of the most widespread 'commonsense' notions of the modern West. It does not, however, belong to our *hard-core* common sense: It is not universally accepted; it is not inevitably presupposed in practice; one can deny it without necessarily presupposing its truth in the act of denying it. And yet in the name of this parochial, merely soft-core commonsense idea, many modern philosophers and scientists deny other notions, such as freedom and the reality and efficacy of conscious experience, that do belong to our hard-core common sense."⁴⁰

³⁷ Griffin, 1998c, p. 39; Searle, 1984, p. 97.

³⁸ McGinn, 1997, p. 193.

³⁹ Searle, 1984, p. 5, 86, 92-94, 98; Searle's position shows that materialism as the doctrine that the world is purely 'physical' (understood as meaning: 'devoid of experience') can also be seen as what Griffin has called 'cryptodualism': the only difference between a real dualist and a 'cryptodualist' is that for the former there is a clear dividing line between entities with and entities without experience, while for the latter experience is subsequently defined as somehow unreal or illusory.

⁴⁰ Griffin, 1998c, p. 21; Whitehead, 1978, p. 47: Whitehead reacts against those who would dispute the hard-core common sense intuition of freedom for "this element in experience is too large

This is why Griffin - following Whitehead - argues that there is not a single actual entity that is completely devoid of spontaneity or freedom. Some people may not want to accept that and argue that we are determined to believe that we are free, as it may, for example, have been selected for as it increased our chances for survival. But this argument is self-defeating: we could argue that - if freedom is illusory - we should be suspicious even of our formal principles, such as for example the principle of non-contradiction, which would undermine all attempts at rational discourse.⁴¹ The only reason why humans have more freedom than, say bacteria, is that richness of experience increases with the increase of complexity of organisms, which allows for more data to be appropriated. Human beings have to be situated at a very high level in this evolutionary increase of freedom since we possess the capacity to change our characters rapidly over time, while subatomic particles remain relatively similar over billions of years.⁴²

Not only the idea that freedom, but also the related idea that our unity of experience is illusory, is widespread. Some people may argue that, while we had been used to thinking that a rock is an unity, modern science has taught us that it is merely an aggregate of particles and that the same holds for our alleged

to be put aside merely as misconstruction. It governs the whole tone of human life"; Whitehead, 1958, p. 14: Here, Whitehead provides the example of professors who write papers with the purpose of proving that purposes have no causal role in human behaviour.

⁴¹ Griffin, 1998c, p. 170.

⁴² Whitehead, 1978, p. 102; Griffin, 1998c, p. 193-194.

unity of experience.

Whitehead, however, holds that the ultimate metaphysical principle is that "the many become one, and are increased by one."⁴³ The whole is more than the sum of its parts for all true individuals, while it is merely the sum of its parts for all aggregational societies. Relating to the former, Griffin also speaks, following Hartshorne, of **compound individuals**, which are characterised by a hierarchy of experiences in which the higher level experiences provide the whole individual with a unified centre.⁴⁴ Applied to the mind-brain relation, we could say that the mind constitutes a temporal society of dominant occasions that is only partly created by the many neuronic experiences. This allows for downward causation or the mind influencing the body.⁴⁵ If there is no mind over and above the brain, it seems hard, if not impossible, to understand how we can understand the hard-core intuition that we have - at least sometimes - a unified experience and a degree of coordination in our inner and outer behaviour: how can these phenomena be understood by sole reference to billions of atoms or neurons? But rocks, while also being composed out of billions of atoms, do not have a unified experience, which can be explained by distinguishing aggregates from compound individuals.

An important difference between aggregates and compound individuals is that agency relates only to true individuals, which

⁴³ Whitehead, 1978, p. 21.

⁴⁴ Griffin, 1998c, p. 186; Griffin, 1994, p. 195: Griffin remarks that the notion 'compound individual' was coined by Hartshorne, 1936, 193-220.

⁴⁵ Whitehead, 1978, p. 108-109.

is why we can act in a self-determining and unified way, whereas rocks, by contrast, lack the capacity to walk. Critics such as Paul and Patricia Churchland, however, argue that our sense of self-determination, part of our folk psychology, will soon be unveiled as superstition and discarded just in the same way as ideas in folk physics have been discarded by modern science.⁴⁶ But - as Griffin has pointed out - this assumption may well fuse two systems of ideas that are very different in kind, thereby ignoring the difference between soft-core and hard-core common sense. The crucial difference is that the ideas rejected as 'folk physics', such as phlogiston, are soft-core commonsense notions or explanatory posits. Soft-core commonsense notions can be denied verbally without contradicting the presuppositions that are necessarily presupposed in daily practice. Hard-core commonsense notions, on the other hand, are necessarily presupposed in practice, and can therefore not be denied without contradicting oneself. Our sense of unity of experience, for example, is - in spite of its incompleteness - phenomenologically given and as such not simply posited to explain something else.⁴⁷ Yet the emergence of our mind or soul as a centre of unified experience out of the activities of our neurons is not unique. Griffin refers to research which suggests that bacteria have memories (of a primitive sort) that enable them to make decisions (of a primitive sort), and adds that we can go from higher levels of experience, such as eukaryotic cells, to lower levels including prokaryotic

⁴⁶ Churchland, 1986 and Churchland and Churchland, 1997: Their view is known as 'eliminative materialism'.

⁴⁷ Griffin, 1998c, p. 173, 179. Reference is made to Chalmers, 1995, p. 208f.

life and viruses, and even extrapolate further down to the remarkable DNA and RNA macromolecules, to molecules and atoms, and ultimately to the lack of determinism at the level of quantum physics.⁴⁸ Just like Whitehead, Griffin suggests that lower forms of animal life, with plants, lack dominant centres of activity or temporal societies of regnant occasions, which is why Whitehead wrote: "A tree is a democracy".⁴⁹ Yet, **contrary to Whitehead and Griffin**, I believe that we have reasons to doubt that **plants lack regnant occasions**. If we highlight, for example, the fact that separate parts of plants have sometimes highly specialised functions (for example, in trees: roots for taking up minerals from the soil and leaves for photosynthesis) which contribute to the survival of the whole, then we may suspect that plants also, unlike rocks, have dominant centres of activity, which may nevertheless be much harder to identify than for animals.

But perhaps the most basic problem for both materialism and dualism is how we have to conceive of the **emergence** of experience out of non-experiencing things. This problem has also been dealt with in Nagel's famous article 'What Is It Like to Be a Bat?'⁵⁰ Nagel argues that a subject or a *pour soi* or something that is for itself could not possibly have emerged from an *en soi* or an object having no features apart from those that are perceivable by others. We simply cannot say, like a materialist would, that

⁴⁸ Griffin, 1998c, p. 61, 186-187: Reference is made to Tse and Adler, 1974.

⁴⁹ Whitehead, 1933, p. 264; See also Whitehead, 1978, p. 108-109.

⁵⁰ Nagel, 1979, p. 189.

experience emerges just like solidity emerges when water reaches a certain temperature, since the latter is the emergence of objects for a presupposed subject, while the former is the emergence of the subject itself from an object. To argue that it did could be called the **emergence category mistake**.⁵¹

All attempts to derive subjectivity from a world that is devoid of subjectivity ultimately fail. A world that is devoid of subjectivity would be a world that is ruled solely by efficient causation. Daniel Dennett, for example, has argued that at some point simple replicators emerged in a world driven entirely by mechanical causes, thereby introducing a "point of view".⁵² Hence, the conclusion that these replicators have experience, interests, or purposes seems inevitable.⁵³ Griffin has remarked rightly that, in this way, Dennett - a materialist - has to allow for a quiet little miracle, and the evolution towards human consciousness can then be accounted for simply by referring to an increase in complexity: "The point of view of conscious observers is ... a sophisticated descendant of the primordial points of view of the first replicators who divided their worlds into good and bad".⁵⁴

Faced with such a mysterious mind-body connection, where the

⁵¹ Griffin, 1998c, p. 63-65.

⁵² Dennett, 1991, p. 174; Griffin, 1998c, p. 75: I agree with Griffin that it is at least puzzling that Dennett, after having argued for a form of sentience in single-celled organisms like amoebas, goes on to deny sentience for single-celled organisms such as neurons.

⁵³ Dennett, however, would not agree on the argument that the existence of a point of view indicates purposiveness, a point which he hammers home in Dennett, 1995.

⁵⁴ Dennett, 1991, p. 176.

mental simply 'emerges' out of the material, it should not surprise us that classical theists have used it as an argument for the existence of God: only faith in the power of God can 'explain' what otherwise remains without explanation. A recent example of such an attempt is Richard Swinburne.⁵⁵ Descartes admitted that he did not know how mind and body interact, but he thought that this was not important because we empirically know that they do interact.⁵⁶ By conceding this, Griffin argues that Descartes should have revised his theory that mind and body are completely separate, but he did not. The 'evident' facts of his hard-core common sense clashed with his theoretical construction of these facts.

What materialism and dualism have in common is the view that matter is inert or devoid of spontaneity. Materialists find the problem of the connection between mind and matter often to be unsolvable because of the complicated status of the mind.⁵⁷ Yet the materialist Galen Strawson has seen that the **problem** may rather lie **on the other side**. It may well be the case that the phenomena described by physics do not provide a satisfactory account of what matter is. He doubts we can be wrong about the experiential character of, for example, the pains we go through, but rather **questions** the way we describe **the nature of matter** as we observe it **out there**. That is why Strawson thinks we need a

⁵⁵ Swinburne, 1986, p. 198-199.

⁵⁶ Griffin, 1998c, p. 75: Reference is made to Descartes, 1989, p. 103-111.

⁵⁷ See for example McGinn, 1991, p. 82.

revolution in our understanding of matter to shed light on experiential matter that is left unexplained by current physics.⁵⁸ The same idea had already been expressed by Whitehead. One example of the **fallacy of misplaced concreteness** (the error of mistaking the abstract for the concrete) is the **fallacy of simple location**. Modern materialism conceives of matter as being in a single location: it is right here in space and time without reference to other positions in space and to either the past or the future.⁵⁹ Matter is understood to be existing at an instant, without duration, and therefore, as a collection of what Whitehead called "vacuous actualities".⁶⁰ This is tantamount to saying that it does not exist for its own sake, or lacks experience and intrinsic value. Whitehead has recognised that this view may have been given up in the new physics since matter is described as energy, which is sheer activity, but, to be sure, "the physicists' energy is obviously an abstraction".⁶¹ This is so because physics mostly abstracts from the intrinsic reality of the entities described by it and concentrates only on certain aspects of what happens between them. Precisely because materialists accept that this is all there needs to be said, effective causation has been reduced to efficient causation, which is tantamount to

⁵⁸ Strawson, 1994, p. 50-51, 60, 99.

⁵⁹ Whitehead, 1985, p. 64-65: As Whitehead points out, this makes induction - which is essential for postulating laws of nature - impossible; Griffin, 1998c, p. 119.

⁶⁰ Whitehead, 1978, p. 29, 167; Griffin, 1998c, p. 120.

⁶¹ Whitehead, 1985, p. 47.

determinism.⁶² But it is also tantamount to a world in which evolution cannot take place. By this, Whitehead means that - within a materialistic framework - there is no purpose for the changing relations among the bits of matter.⁶³

The above has shown that all the problems related to dualism and materialism are overcome by panexperientialism. We have seen that panexperientialism holds, against materialism, that the mind is distinct from the brain, yet at the same time, against dualism, that it is not made from an ontologically different kind of 'stuff', and that therefore all actual entities have mind-like properties.

Yet Griffin's defense of panexperientialism has been challenged by Kim, who has asked: "how is the positing of mentality at the level of individual cells and neurons supposed to help explain the emergence of full-blown consciousness in the human brain?"⁶⁴ Griffin has responded to this that his position at least prevents -unlike materialism and dualism - this emergence being seen as completely mysterious.⁶⁵ I agree with this, but would like to stress - more strongly than Griffin - that we may never be able to explain how this emergence happened. One of the reasons why this is so relates to the fact that we do not have a direct

⁶² Griffin, 1998c, p. 182; Whitehead, 1985, p. 98-99: The idea that all electrons are the same, for example, is an abstraction from the concrete reality of the electron.

⁶³ Whitehead, 1985, p. 134-135.

⁶⁴ Kim, 1999, p. 32.

⁶⁵ Griffin, 1999b, p. 35-36.

experience of what goes on in the mind or in the inward aspect of most - or all - others. Another reason is that our own self-consciousness is limited: the conscious act of making a decision cannot be explained fully by reference to past or determinate events - although being conditioned, not determined, by the past. And also the effects of our conscious decisions do not coincide with our conscious decisions, as we can never predict how our actions interact with decisions taken by other entities. Therefore, since it is already hard to know something about the nature of our own consciousness, it is even more difficult to compare it with other forms of mentality. Perhaps McGinn is not too far wrong when he talks of a "permanent mystery".⁶⁶

2.5. Panexperientialism as a Contribution to a Weak Anthropocentric Ecological Ethic which Recognises the Intrinsic Value of Nonhuman Actual Entities

Griffin has remarked that panexperientialism has been alluded to, quite unexpectedly, in a passage in the *Critique of Pure Reason* where Kant argues that the soul, as we know it from introspection, and the objects of the world that we know by sensory perception, may not be different in kind, but that they appear to be radically different only because of the fact that we know them in different ways:

"The difficulty peculiar to the problem consists ... in the assumed heterogeneity of the object of inner sense (the soul) and the objects of outer senses, the formal condition of their intuition being, in the case of the former, time only, and in the case of the latter,

⁶⁶ McGinn, 1997, p. 7.

also space. But if we consider that the two kinds of objects thus differ from each other, not inwardly but only in so far as one appears outwardly to another, and that what, as thing in itself, underlies the appearances of matter, perhaps after all may not be so heterogeneous in character, this difficulty vanishes, the only question that remains being how in general a communion of substances is possible."⁶⁷

On this basis, Griffin argues that Kant, if he had carried this insight through, could have developed an **ecological ethic**. However, it is **more appropriate** to say that Kant could have adopted an ethic which would have **questioned his strong anthropocentrism**. If Kant would have given more consideration to the view that what outer objects are in themselves can be conceived by analogy from what we know from introspection about what we are in ourselves, that is: experiencing things or things for ourselves, his strongly anthropocentric ecological ethic would have been challenged. This is so because it is precisely the view that a thing exists for itself which led Kant to his categorical imperative, which constitutes the core of his ethics: a thing that exists for itself should be treated as an end in itself.⁶⁸ The reason why it is legitimate to extrapolate towards nonhuman entities relates to the fact that, in order to call even other human beings ends in themselves, we already have to extrapolate from the way we experience ourselves, from our own introspection, which is necessarily strictly individual. This means that Kant's formulation of the categorical imperative **already presupposes a generalisation** from our introspection to outer objects of sensory perception. If what we know about other people is derived from

⁶⁷ Griffin, 1998c, p. 83. Reference is made to Kant, 1965, p. 381 (B 428).

⁶⁸ Griffin, 1998c, p. 102.

what we know about ourselves, there is no obvious reason why we should not also derive our knowledge about the nonhuman world from what we know about ourselves.

The possible materialist or dualist objection to this is that the only thing we can really know from the world of the outer senses is that it is spatially extended, not whether or not it has experience. In fact, the answer to whether or not nonhuman entities have experience most likely must be negative, at least for those things that lack sensory organs.

This is tackled by Whitehead and Griffin in the following way. The **body** provides us with an organ that differs from the mind and is yet most directly known not only as something that is spatially extended, but as something that is affected by the world and by the mind. When you have a pain in the back, the location of the pain is not the dominant or so-called primary quality (or rather: quantity), but that it hurts! Not just the location, but both the location and the feeling of pain are - to some extent - mind-dependent (which undermines the distinction between primary and secondary qualities). But both are also mind-independent: it is correct to say that the cells in your back produce the feeling of pain, from which - as Griffin says - "it would not seem a great inferential leap to think of them as things that can *feel* pain".⁶⁹ What this does not mean, of course, is that the pain would be qualitatively the same, with or without a brain being involved. Furthermore, the idea that entities without sensory organs cannot feel can be opposed by drawing attention to the fact that the mind

⁶⁹ Griffin, 1998c, p. 108-110 (quote p. 109).

not only passively undergoes the feeling of pain in the back, but also prehends the brain and the nervous system. All perceptions of things inside and outside the body presuppose perception in a direct, **nonsensory** way: when we see a tree, for example, the information is not just transmitted to our brain via our eyes, but we have the power to perceive our brain. While we receive indirectly visual data from our eyes, we directly prehend our brain. Therefore: "If our basic form of perception is nonsensory, the idea that it cannot be generalized to individuals devoid of sensory organs is not self-evident."⁷⁰ That this observation has far-reaching consequences is articulated clearly by Whitehead:

"It is the accepted doctrine in physical science that a living body is to be interpreted according to what is known of other sections of the physical universe. This is a sound axiom; but it is double-edged. For it carries with it the converse deduction that other sections of the universe are to be interpreted in accordance with what we know of the human body."⁷¹

In other words, it makes sense to assign both experiential and objective or externalist predicates to all individuals, ranging from quarks to human beings, which has implications for the formulation of an ecological ethic. Panexperientialism is a non-reductionistic form of **physicalism** or **naturalism**: the mental or experiential always arises out of the physical or that which is objectively given, prehends or feels the physical in a partially

⁷⁰ Griffin, 1998c, p. 111; Griffin, 1998a, p. 4: Griffin reacts as follows against the "sensationalist theory of perception, according to which we can perceive things beyond our own minds only by means of our physical sensory organs. This doctrine implies that there can be no genuine religious experience, in the sense of a nonsensory perception of a Holy Reality, which those who have had mystical experiences usually take them to be. This sensationalist doctrine also implies that there can be no genuine moral, aesthetic, or logical experience, in the sense of a perception of ethical, aesthetic, or logical norms".

⁷¹ Whitehead, 1978, p. 119.

self-determining way, and ends - in Whitehead's terminology: 'perishes' or reaches 'satisfaction' - by becoming an object for subsequent occasions. But panexperientialist physicalism differs from materialism or reductionistic physicalism in that for the former the higher levels of experience are regarded as having their own causality, also allowing for downward causation (from mind to body, for example), while for the latter all causality is conceived in terms of the efficient causation of the parts.⁷² Yet the option for panexperientialist physicalism does not entail dualism: although the mind and the brain are distinct, all actual entities are physical.

Whitehead devotes the whole third part of *Process and Reality* to the description of the different phases of experience that can characterise actual entities, which clarifies that the mental phases always presuppose the physical phases.⁷³ The different phases do not occur in all entities, but it is so that the later phases that characterise more complex actual entities are always preceded by the earlier phases. These different phases can be distinguished from one another for the sake of epistemological clarity. In reality, however, the different phases that constitute one actual entity cannot be divided. To do so would violate the fact that the ultimate constituents of nature are 'atomic': they cannot be carved up any further - this would imply an infinite regress.

⁷² Griffin, 1998c, p. 235.

⁷³ Whitehead, 1978, p. 218-280.

Our **physical feelings** or perceptions in the mode of **causal efficacy** constitute the most basic mode of experience and result in hard-core commonsense notions, such as for example the assumption that causation is efficacious and our sense of identification with our bodies. Whitehead says about this:

"... (O)ur feeling of bodily-unity is a primary experience. It is an experience so habitual and so completely a matter of course that we rarely mention it. No one ever says, Here am I, and I have brought my body with me."⁷⁴

This is a nonsensory mode of perception.

We can differentiate between **pure physical feelings** and hybrid physical feelings. In the former case, the feelings of the previous actual entities are prehended in terms of their physical poles: that which is passed on to the new actual entity is what the past occasions have in turn received from their previous occasions. The novelty that may have occurred in the mental pole of the past occasions is ignored. Physical prehension explains why the world described by physics behaves with great uniformity.⁷⁵

A **hybrid physical feeling**, by contrast, prehends one of the feelings of the previous occasion in terms of its mental pole, with its conceptual feelings. It differs from mentality as the second level of experience (see below) because it is still a physical prehension: the object felt is an actuality, not a mere possibility (as is the case for the next level). It is hybrid because the previous actuality is prehended in terms of its prehension of possibilities. This may include novel forms, which

⁷⁴ Whitehead, 1938, p. 156.

⁷⁵ Whitehead, 1978, p. 245-247; Whitehead, 1933, p. 249-250.

are then passed on by means of pure physical prehensions. In this way, the introduction of novelty is canalised.⁷⁶

The conceptual feelings of God - on which more in the final chapter - are also felt, which is how the actual entities get their initial aims from God.⁷⁷

Mentality or conceptual valuation is the second level of experience: it is not identical with consciousness as it may be an appetite or blind urge to realise, or avoid, some sort of feeling. The essence of what was prehended in phase one is here abstracted from the feeling of another occasion and reproduced conceptually.⁷⁸ There is no direct prehension of possibilities (eternal objects), but a prehension of these possibilities as part of the feeling of another actual entity. In this phase, the actual entity no longer needs to conform, as it can value what is passed on subjectively.⁷⁹ In higher organisms, conceptual reversion becomes possible: the eternal objects can differ partially from the datum, which allows for the feeling of new possibilities. Whitehead holds that there is a significant increase in the capacity for conceptual valuation and reversion and thus for novelty of response at the level of eukaryotic cells.⁸⁰

⁷⁶ Whitehead, 1978, p. 107, 245-247; Griffin, 1998c, p. 194-195.

⁷⁷ Whitehead, 1978, p. 224-225, 244.

⁷⁸ Whitehead, 1978, p. 33, 101.

⁷⁹ Whitehead, 1978, p. 240, 246.

⁸⁰ Whitehead, 1978, p. 249-250.

The third phase of experience is the integration of prehensions from the first two phases, which results, especially, in **propositional feelings**. These are prehensions whose objects are propositions or unions of actualities (from physical feelings) and possibilities (from conceptual feelings), such as for example 'this tomato is red'. Although this is a conscious judgment and thus belongs to the fourth phase (see below), the proposition involving the tomato could be an immediate part of the content of such a feeling.⁸¹ Griffin uses another example, 'my back is painful', which may or may not be the case, but whether or not it is a matter of fact, it shows that the primary function of a proposition is to serve as a "lure for feeling", or - in the words of Griffin - it "serves to lure its experiencer either toward or away from the conjoining of some particular possibility with some particular fact(s)".⁸² Not all actual entities possess these propositional feelings. In a propositional feeling, the possibility, for example redness, is abstracted from the immediate feeling, which requires high mental capacities. Since not all entities have these capacities, Whitehead also speaks about physical purposes, in which - in the words of Griffin - "this abstraction from the present feeling is only latent".⁸³

In Griffin's interpretation, however, there is a strong continuity between the two:

"In a physical purpose, the possibility embodied in the physical feeling is felt with blind appetite, either

⁸¹ Whitehead, 1978, p. 160-162, 243, 261, 266f; Griffin, 1998c, p. 128-133.

⁸² Whitehead, 1978, p. 25; Griffin, 1998c, p. 129-130.

⁸³ Whitehead, 1978, p. 276; Griffin, 1998c, p. 130.

positive or negative. Even in human experience, most of the feelings in the third phase would seem to be mere physical purposes rather than full-fledged propositional feelings. In any case, 'propositional feelings' should here be understood to include 'physical purposes'.⁸⁴

Since propositional feelings are "simply more sophisticated versions of 'physical purposes'", Griffin argues that neurons, for example, "while (presumably) being devoid of conscious intentionality, are not devoid of intentionality, or at least an incipient intentionality, altogether".⁸⁵

The fourth phase is marked by **intellectual feeling**, which marks only high organisms. Here we find consciousness and thought, which is the integration of the first and the third phase. Whereas experience relates to a minimal awareness of what is the case, consciousness involves negation or an awareness of what is not the case. It also involves knowledge of what is and what might be. This shows that consciousness is a late development out of a more basic form of experience. Whitehead regrets the fact that the metaphysical priority of the earlier phases of experience is often forgotten in modern epistemologies by saying: "Experience has been explained in a thoroughly topsy-turvy fashion, the wrong end first".⁸⁶

People often forget the fact that the reason why sensory perception is illuminated clearly in our consciousness is not that

⁸⁴ Griffin, 1998c, p. 130.

⁸⁵ Griffin, 1998c, p. 131.

⁸⁶ Whitehead, 1978, p. 162; Whitehead, 1933, p. 232; Griffin, 1998c, p. 130-131.

our experience starts with sensory perception, but precisely that it does not! For Whitehead, sensory perception is derivative from two simpler modes of perception. The first is perception in the mode of causal efficacy, which we have mentioned already: it is simply physical prehension described in the language of perception, which accounts for example for our identification with our bodies.

Perception in the mode of presentational immediacy is the second mode of perception, which is derivative from the first. The data are here taken as immediately present. Since they do not refer to their origin, it is, strictly speaking, even wrong to call them 'sense data', as this would imply that we knew that they were derived from our senses.

Sensory perception is a synthesis of these two forms, a form of 'perception in the mode of symbolic reference': data from one of the two previous modes (usually presentational immediacy) are used to interpret data from the other mode (usually causal efficacy). When you see something red, you cannot be wrong about the redness being immediately present, nor about the fact that your body is affected by something (causal efficacy: although you may be wrong by thinking that it had been generated by your eyes), but you may be wrong about the fact that the red thing you see is, for example, a tomato. Symbolic reference introduces interpretation and thus relates to our capacity to make errors.⁸⁷

⁸⁷ Whitehead, 1978, p. 168, 172; Whitehead, 1933, p. 279-281; Griffin, 1998c, p. 135.

The problem now is, as perceived by Whitehead, that we tend to **downplay** the role played by perception in the mode of **causal efficacy** and hence start to spatialise nature and to deny experience for entities without sensory organs. This is an example of the fallacy of misplaced concreteness: the view that natural entities are simply located or vacuous (meaning: devoid of all spontaneity or experience).⁸⁸ Historically, this led to scientific materialism, which conceives of matter as having nothing but spatial properties. It is easy to see how a stress on sensory perception could lead to this conclusion: if self-movement is seen as a precondition for experience, it would allow for experience in mice, for example, but not in, for example, stones, which appear - to our eyes - inert. But the more refined methods of perception of modern science have allowed us to see that stones are, in fact, far from inert. Ordinary sensory perception hides the fact that a stone is composed out of billions of individuals in energetic activity, and presents it as if it were a passive, solid, single, enduring substance. But although our more refined perception may have opened up the possibility for accepting that even the subatomic particles within stones are moving, these particles are still considered to be as inert and enduring as the traditional stones (or atoms). Although quantum mechanics may have challenged this view, we still speak of elementary particles, assuming that they are enduring.⁸⁹ What is also often forgotten is that we experience things primarily in an emotional, and not

⁸⁸ Whitehead, 1978, p. 29, 167.

⁸⁹ Whitehead, 1978, p. 77-78; Griffin, 1998c, p. 137-139; Griffin, s.d., p. 33.

in a spatialised way. Our tendency to spatialise nature - which may result in the fallacy of simple location - depends on a high abstraction, which is derived from a more basic way of experiencing nature. The so-called 'secondary qualities', such as colours, are not derived from the so-called 'primary qualities' (or rather: quantities), but from the so-called 'tertiary qualities' which are the most basic way in which we experience nature: we experience it as emotional and as having value.⁹⁰

As we have already seen, the most obvious place for starting an attack on simple location is our own body. If our sense perception of, say, the sun, is the result of a prehension of the activity of our brain cells, then these cells must have inner duration - which contradicts simple location - because they transfer what happened in the past (about eight minutes ago on the surface of the sun) to the future (my prehension of the sun).⁹¹ This means that our brain cells, the cells of our eyes, and all our bodily cells, must have qualia of some sort, even if they do not experience them in the same way as our conscious sensory perception does. Griffin clarifies: "'Red as seen', then, would be a transmutation effected by more or less high-level experiences out of 'red as felt'."⁹² From direct experience, we know that these higher-level experiences are somehow related to the lower-

⁹⁰ Whitehead, 1978, p. 114, 162; Griffin, 1998c, p. 139-140.

⁹¹ Griffin, 1998c, p. 144: Griffin refutes the possible objection that the transfer between the brain cells and the mind does not take time by referring to the cellular events in the eye, which undeniably happen before the mind's sensory perception.

⁹² Griffin, 1998c, p. 145; Whitehead, 1933, p. 231-232.

level experiences of parts of our bodies. In other words, there is a mutual efficient causation between the (parts of the) body and the unified experience of the self: they are not strictly or numerically identical, but intrinsically related to one another so that they partly constitute one another.⁹³

In sum, our bodily cells are not simply located and have experience, which leads to the suggestion that **the same** may be said for **entities outside the body**. After all, - as Whitehead wrote -

"the body is part of the external world, continuous with it. In fact, it is just as much part of nature as anything else there - a river, or a mountain, or a cloud. Also, if we are fussily exact, we cannot define where a body begins and where external nature ends".⁹⁴

That we have to think that there are such things as stones, stars, and other objects, in the outside world, is expressed in Whitehead's **reformed subjectivist principle**. Whitehead fully accepts what he calls the (Cartesian-Humean) 'subjectivist bias' or the idea that "those substances which are the subjects enjoying conscious experiences provide the primary data for philosophy, namely, themselves as in the enjoyment of such experience", but - contrary to Hume - we are not aware primarily of universal (mental) qualities, say redness, but of concrete objects or actual entities (say those forming the sun).⁹⁵ Neither the solid objects out there (as materialism would have it) nor the abstract qualia in our minds (as some form of idealism would have it) are the

⁹³ Whitehead, 1933, p. 243-244; Griffin, 1998c, p. 148-150.

⁹⁴ Whitehead, 1938, p. 29-30.

⁹⁵ Whitehead, 1978, p. 159-160; Griffin, 1998c, p. 174-176.

immediate facts of our experience: the immediate fact of our experience is our experience of objects. If our experience is the "self-enjoyment of being one among many, and of being one arising out of the composition of many" and "the percipient occasion is its own standard of actuality", then there is no reason why we should not conceive of other actualities, as they are in themselves, by analogy with a moment of our own experience.⁹⁶

The difference in experience, then, between lower and higher organisms is that the latter have developed perception in the mode of presentational immediacy and symbolic perception, and that a great importance is given to conceptual reversion in the second phase of experience, and to propositional feeling in the third phase of experience. Lower organisms such as molecules, electrons, and crystals, by contrast, rely more or less exclusively on perception in the mode of causal efficacy and on physical purpose in the third phase of experience.

The different levels of experience described by Whitehead are very abstract, which is also the result of the fact that Whitehead hardly provides concrete examples which demonstrate how the experiences of the actual entities could be marked according to the different levels (which also function as phases for higher actual entities). This is why it is important for an ecological ethic that values the experiences of nonhuman animals to observe and interpret the behaviour of nonhuman animals, as this is the best way we can understand the way they experience the world -

⁹⁶ Whitehead, 1978, p. 145.

as most nonhuman animals largely lack the capacities to inform us about their feelings. An evolutionary understanding of the world and comparative biological research are also important for understanding how more sophisticated ways of experience have evolved from more simple modes.⁹⁷

Although we may be able to imagine - to some extent - what it means to be, for example, a chimpanzee, it is a lot more difficult to imagine what it means, for example, to be a bat. This does not, however, take away the fact that we can conceive of what it means to be a bat, as Griffin has argued in discussing Nagel's 'What is it Like to be a Bat?'. If we can conceive of something as long as we do not contradict ourselves, we can conceive of bats having experiences. It makes even a lot of sense to conceive of this, because otherwise we have to explain how things with experience have emerged from things that lack experience, which is clearly inconceivable.⁹⁸ However, Griffin remarks that this seems implausible for many people, for example for Popper, who cannot accept experience any further down than single-celled animals.⁹⁹ As Griffin has perceived rightly, this is so because Popper is still biased by the view that the world is composed of solid material bodies following deterministic laws. Yet what is interesting is that Popper knows that the elementary particles studied by quantum mechanics may not be like that, which leads

⁹⁷ For a very interesting discussion of the evolutionary development of the mind in the hominid line starting from the ancestor we had in common with the chimpanzee, see Mithen, 1996.

⁹⁸ Griffin, s.d., p. 36; Reference is also made to Nagel, 1979, p. 189, from which is quoted: "One cannot derive a *pour soi* from an *en soi* This gap is logically unbridgeable".

⁹⁹ Popper and Eccles, 1977, p. 10, 29, 71, 79-80.

him to attribute 'propensities' to them.¹⁰⁰ But - as Griffin says - it may well be contradictory to hold that these ultimate units are not like the solid states that we observe in billiard balls or rocks, and yet lack spontaneity, subjectivity, or freedom. As a matter of fact, the most common objection (raised also by Popper) against panexperientialism is that it would entail that entities such as billiard balls, rocks, and telephones have experiences.¹⁰¹ This may well be a valid objection against those forms of panexperientialism that do not differentiate between aggregational entities and true individuals, such as for example Spinoza's version, but it does not hold against Whitehead's version of panexperientialism. This is so because Whitehead - as pointed out earlier - makes a distinction between aggregates and individuals, the former being a random collection of actual entities devoid of individuality, the latter being a structured organisation or society of actual entities. Panexperientialism does not entail that all 'things' have experience: rocks, for example, lack experience because they lack unity or individuality. They are mere aggregates of individuals, and are therefore most apt to be studied by means of deterministic scientific models, since these abstract from individuality. Even if our epistemic unpredictability at the quantum level implies ontological indeterminacy, the individual spontaneities composing an aggregate such as a billiard ball can be ignored for practical purposes. If we want to study the behaviour of the billiard ball, we just

¹⁰⁰ Griffin, 1998c, p. 94.

¹⁰¹ Griffin, 1998c, p. 95; Popper and Eccles, 1977, p. 55, 517.

rely on the law of large numbers: the spontaneities are averaged out. At the same time, we may not forget that the laws of quantum physics, since they apply only to the average behaviour of large numbers of particles, leave open how we can describe the behaviour of any one individual, as we mentioned in part one, chapter five, section two.¹⁰² One of the reasons why we oppose ourselves to the world relates then to the fact that we tend to obfuscate the individuality of the particle by concentrating our attention (via sensory perception) on the aggregates that they compose, and which often seem inert, which results in - in the words of Griffin - "playing down the subjective, emotional nature of the data, and playing up the objective, purely geometrical aspects".¹⁰³

People who support the **strong artificial intelligence** programme have blurred the distinction between human intelligence/experience and artificial intelligence/experience. What is negative about this is that in this way the ecological conditioning of human intelligence is lost from sight, which is another way in which humans can separate themselves from nature, and justify a strongly anthropocentric ecological ethic.¹⁰⁴ From a panexperientialist point of view, this has to be questioned radically. The reason why it took about four billion years for something as complex as the human organism to arise is that the evolution had to happen over a long period of time allowing for a steady - but sometimes fast - increase in experiential complexity. I agree with Griffin:

¹⁰² Griffin, 1998c, p. 185-186, 199; Whitehead, 1933, p. 266.

¹⁰³ Griffin, 1994, p. 198-199.

¹⁰⁴ See for example Barrow and Tipler, 1986.

"So, for a computer to enjoy consciousness and freedom, it would have to have something like a brain composed of units something like the cells of our brains. This does not necessarily mean that carbon-based cells are necessary; we do not know but what life has been formed on planets in other galaxies out of different elementary materials. What does seem necessary is that the brain be composed of billions of compound individuals with a complexity and corresponding experiential richness like unto that of our own brain cells. Because fabricated things with these characteristics would be so different from any computers actual or even remotely possible today as to require another name, we can say that, from this perspective, computers cannot have freedom, consciousness or any level of unified experience."¹⁰⁵

The fact that artificial intelligence does not allow us to reproduce consciousness and free agency should not surprise us, given the fact that we can only partially understand, but never explain what Pinker has called "the mysterious notion of uncaused causation that underlies the will".¹⁰⁶ Panexperientialism is the recognition that this mystery is part of a larger mystery that marks all actual entities. If we accept the view that all actual entities are things for themselves, we have to say farewell to strong anthropocentrism. The development of the philosophy of science has shown increasingly that science, apart from yielding true and universally valid knowledge of reality, is also clearly conditioned by cultural and social norms and expectations. One of these norms is the idea that the vast majority of actual entities are wholly devoid of experience and spontaneity. This is clearly not a universally accepted idea, but an idea that has

¹⁰⁵ Griffin, 1998c, p. 198; The same idea is in Pinker, 1997, p. 564: "Sentience is not a combination of brain events or computational states: how a red-sensitive neuron gives rise to the subjective feel of redness is not a whit less mysterious than how the whole brain gives rise to the entire stream of consciousness."

¹⁰⁶ Pinker, 1997, p. 54.

been used, predominantly by the Western world, to justify a strong anthropocentric ecological ethic and a reduction of the nonhuman world to its instrumental value for humanity. It is, for example, by no means a coincidence that Descartes used the idea that nonhuman animals cannot think to justify his killing and vivisectioning of them.¹⁰⁷

It is my contention that we can only argue consistently for the intrinsic value of nonhuman entities if at the same time panexperientialism is adopted. Panexperientialism also provides the key for a problem we addressed in the previous part under the title '5.6. Weak Anthropocentrism and the Solution of Moral Conflicts'. As only experiencing individuals have intrinsic value, it is clear that the reason why aggregates such as rocks and ecosystems do not have intrinsic value is because they lack experience.¹⁰⁸ The manifold of cells in our body, on the other hand, gives rise to a high-level individual, which is called the mind or the soul. Other compound individuals are atoms, molecules, macromolecules, organelles, and cells, as they are all integrating lower-level individuals in increasingly more organised ways. Since what has been established so far is that higher-level unities have higher forms of experience and higher intrinsic value, we could question whether they should always deserve more moral respect?

A better understanding of what is meant by the difference between

¹⁰⁷ See for example Descartes, 1976, p. 66 and Attfield, 1983b, p. 40.

¹⁰⁸ Griffin, 1994, p. 195: "the stone qua stone (in contrast with the living squirrel qua squirrel) has no experience".

ecological and intrinsic value can help us here.

If we grant that what is meant by intrinsic or inherent value by deep ecologists is only, as explained in the platform, that "the value of non-human life forms is independent of the usefulness these may have for narrow human purposes", then this is clearly different from what we, Whiteheadians, mean by intrinsic value.¹⁰⁹

In a Naessian sense, what is especially important is the ecological value of something or its value for sustaining the ecosystem, which is an important type of extrinsic value in the Whiteheadian sense. The Whiteheadian notion of intrinsic value is more stringent and applies to individuals only, while the Naessian sense (which we prefer to call 'inherent value') includes both intrinsic and certain types of extrinsic value (in the Whiteheadian sense) and applies to ecosystems and species as well as to individuals.

Griffin uses this terminological clarification to express agreement with the criterion of biospherical egalitarianism as proposed by deep ecologists: "a rough equality in the inherent value of the various species results from an inverse relation that exists, in general, between intrinsic value and ecological value".¹¹⁰ Bacteria and worms, for example, have little experience or little intrinsic value, but great ecological value (without them, the ecosystem would collapse), while whales, elephants, and primates, for example, have great intrinsic value and little ecological value. The rift between deep ecologists and land ethicists on the one hand, and animal liberationists and moral

¹⁰⁹ Naess, 1989, p. 29.

¹¹⁰ Griffin, 1994, p. 202.

extensionists, on the other hand, does not have to be insurpassible. The stress on the ecological value by the former highlights the fact that the ecosystem might be better off if we did not exist, while the latter's focus on the intrinsic value of individuals leads to a focus on those animals that have the greatest intrinsic value. Griffin concludes then that both approaches have to be regarded as "complementary, not conflictual".¹¹¹ It is not incompatible to cull red deer in the Highlands of Scotland, while maintaining at the same time that they have the greatest intrinsic value of all entities living in their ecosystem. The culling could, in some cases, be justified because of their low ecosystemic value: their sheer number may result in overgrazing and the rapid erosion of hillsides, which may threaten the species diversity of plants. But we also have to warn of potential dangers here: while the culling of deer to safeguard the ecosystem may be justifiable, the killing of humans for the same purpose would never be justifiable. To argue that both would be justifiable would make the ecocentric ecological ethic conflictual with the weak anthropocentric ecological ethic that we defended in the previous part.

The above allows us to conclude, with Griffin, that Whitehead's worldview is "deeply ecological".¹¹²

¹¹¹ Griffin, 1994, p. 204.

¹¹² Griffin, 1994, p. 190.

2.6. Panexperientialism and Pantemporalism

A problem that is common to both materialism and dualism and that we have not tackled directly so far is the problem of time. In this section a brief discussion of some of the problems of time is given from the point of view of a process thinker, largely following the writings of Griffin.

Those who believe that experience emerged at some point in the evolutionary process must also accept that time appeared at some stage in this process. This is so because **time presupposes experience in the Whiteheadian sense**. Without experience there would be no 'now' and, as a consequence, no difference between past and future. But this argument is circular, since all talk about evolution inevitably presupposes the existence of time. Therefore, we could drop the idea that time presupposes experience and hold instead, for example, that time arose as soon as there was sufficient organisation of matter for entropic processes to begin. However, this is not a solution as it only pushes the problem further back. This leads to the conclusion that, for materialists and dualists alike, the problem of "how the evolutionary process could have had the time - literally - to have gotten to the point at which time is said to have emerged" seems insurpassable.¹¹³

Panexperientialism also solves the problem of how we have to conceive of time. The widespread classical theistic idea that God, the ultimate reality, is timeless, creates the problem of how this timeless reality could create a temporal reality. Sometimes this

¹¹³ Griffin, 1998c, p. 62.

led to a denial of our hard-core commonsense presupposition that time is real, leading to the conclusion that it therefore must be an illusion. But the problem with this view is that it is hard to see how a timeless world could have created even the illusion of time. In other words: why does time seem real, while it is not? How does this illusion arise?¹¹⁴

Remembering Whitehead's words, however, that "we must bow to those presumptions which, in despite of criticism, we still employ for the regulation of our lives", we may doubt if it makes sense to hold that time is an illusion.¹¹⁵

Process philosophers adopt a particular relational view of time. It is the view that time cannot exist absolutely or independently of any temporal being(s): it only exists as a relation within and between temporal processes.¹¹⁶

Time as known in human experience goes beyond anisotropy. Anisotropy means that the order of events when read off in one direction can be distinguished clearly and objectively from the order read off in the other direction. This is inherent in the entropy of thermodynamics: there is an increase in entropy from the past to the future. However, this does not constitute the asymmetry of time: if we measure the decrease of time, the order

¹¹⁴ Griffin, 1998c, p. 113; Whitrow, 1976, p. 530: Whitrow recounts the following amusing story of someone meeting the Russian philosopher Nicolas Berdyaev: "I have heard him plead passionately for the insignificance and unreality of time, and then suddenly stop and look at his watch with genuine anxiety at the thought that he was two minutes late for taking his medicine!"

¹¹⁵ Whitehead, 1978, p. 151.

¹¹⁶ Griffin, 1998c, p. 4; Capek, 1986, p. 301 and 1976, xxxiv-xxxv: This is even, contrary to many interpreters, Newton's view: God is for him a temporal being so that his 'absolute time' was related to successive states of experience.

of events goes in the other direction, from the future to the past. In a substantialist framework there is no reason, in principle, why the things that have happened in the past 20,000 years could not reverse themselves, so that the glass that was broken yesterday could reassemble itself today.

But if we shift our attention to time as we know it in our experience, we have to subscribe to **irreversibility** or **asymmetry in principle**, and the anisotropy mentioned becomes simply an abstraction from the temporality as felt in our experience. There is a fundamental difference between the relation of the present to the past and the relation of the present to the future. While the past is completely determined, the future is at least partially open and determinable. It is meaningless to anticipate the past and remember the future.¹¹⁷

If our mind is incapable of not taking time seriously, then it does not make sense to conceive of the mind as composed out of timeless brain cells.

And we can go further down from brain cells to subatomic particles. Even if physics could not support the view that subatomic particles are temporal, this may be related only to the limited scope of physics rather than to the nature of reality. Physics does not deal with subatomic particles as they are in themselves, which leaves **room for metaphysics**. But the problem is that, even if we would say that subatomic particles are devoid of time, then it is difficult, or rather impossible, to see how temporal beings could have emerged from non-temporal beings. A similar problem is: how could final causation or action directed

¹¹⁷ Griffin, s.d., p. 5-11, 43-44.

towards a goal emerge from things that are solely characterised by efficient causation? Increase in complexity cannot explain this transition, which leads Griffin to conclude:

"If there is no experience, therefore no final causation, therefore no 'now', therefore no asymmetry and irreversibility in the primordial elements, then even a complexity greater than which none can be thought will be one devoid of all experience, final causation, asymmetry, and irreversibility."¹¹⁸

Therefore, experience must be essential in the universe, as without it there would be no time. Without a 'now' in which the past is prehended and the future anticipated, there would be no time. The 'now', however, is as such no longer divisible in successive moments, which is why Whitehead says that "extensiveness becomes, but becoming is not extensive" so that the actual entities are atomic.¹¹⁹ The reason why the actual entities are not further divisible is that divisibility would imply efficient causation, which is not what is of the essence within the actual occasions. As moments of self-determination, they constitute and fill a spatiotemporal region.¹²⁰ If the act of becoming could be divided into smaller parts, the incomplete phase would make the larger act determinate and this would contradict Whitehead's view on concrescence (the process of becoming of the actual entity) which entails that any incomplete phases must be indeterminate.¹²¹ We conclude with Whitehead that the "passage of the cause into the effect is the cumulative

¹¹⁸ Griffin, s.d., p. 27-28.

¹¹⁹ Whitehead, 1978, p. 35.

¹²⁰ See further in Whitehead, 1978, p. 35 and Ford, 1996b, p. 136.

¹²¹ Ford, 1996b, p. 136.

character of time. The irreversibility of time depends on this character".¹²²

Pantemporalism is supported by quantum mechanics, since it suggests that there is a minimal time period for events. There is no "nature at an instant" so that the idea that the world is infinitely divisible temporally must be regarded as an abstraction: it seems to take a certain minimal duration to be.¹²³

We will see below what pantemporalism implies for our way of conceiving of God, but deal here briefly with a possible objection raised by those who support the idea of a *creatio ex nihilo*. If the Biblical view and the big bang hypothesis are taken to mean that the world was created out of an absolute nothing, there would be an absolute beginning of time. For process thinkers, however, this is inconceivable: how could time begin or emerge out of timelessness?

¹²² Whitehead, 1978, p. 237.

¹²³ Griffin, 1998c, p. 113-114.

Chapter Three: Process Theism and the Ecological God

We now recapitulate the main problems which we addressed in chapter one and which showed that classical theism is untenable: firstly that God creates unilaterally; secondly, that God must be responsible for some forms of evil; thirdly, that God has perfect foreknowledge or timeless knowledge; fourthly, that God can intervene from outside and interrupt the normal order of nature; and finally, that the existence of God justifies a strong anthropocentric ecological ethic. In a Whiteheadian framework, all these views have to be regarded as having serious shortcomings. Before we go into the specific problems mentioned above, we espouse here the basic form in which Whitehead conceives of the relation between God and the world. This will lead to a defense of process theism or panentheism.

3.1. General Contours of Whitehead's Challenge to Classical Theism

Whitehead thinks - to some extent rightly - that Christianity has adopted the **extreme transcendence** that is characteristic of the Semitic concept of God. His main difficulties with this concept are twofold. Firstly, it "leaves God completely outside metaphysical rationalization" as the only thing we know is that He/She created this universe.¹ Whitehead rightly rejects the

¹ Whitehead, 1930, p. 58-59; One of the classical versions of the cosmological argument is Aquinas, ST, IaIIae, q.3: Aquinas has three versions of the argument: there must be an unchanging cause of change, an uncaused cause of existence, and a necessary being; Other attacks on the transcendence of God interpreted as implying that God is the unilateral Creator are Whitehead, 1978, p. 95, 225, 342.

validity of the classical **cosmological** argument in the following way:

"Any proof which commences with the consideration of the character of the actual world cannot rise above the actuality of this world. It can only discover all the factors disclosed in the world as experienced. In other words, it may discover an immanent God, but not a God wholly transcendent. The difficulty can be put in this way: by considering the world we can find all the factors required by the total metaphysical situation; but we cannot discover anything not included in this totality of actual fact, and explanatory of it."²

A second problem he sees is that the only possible proof for the existence of this God would be the **ontological** proof (the inference of the existence out of our concept of it), and he is right that this is not a justifiable procedure, because existence is not a predicate.³

It is a revision of the classical **teleological** argument or the argument from design which forms the basis of Whitehead's concept of God. Here lies the crucial difference between him and much of the modern tradition. The rejection of the validity of the teleological argument by philosophers such as Kant and Hume may be seen as the logical upshot of classical theism (and a *fortiori*: modern deism) with its tendency to stress the separateness of God from the world: it was not clear how this world could provide evidence for a perfect, omnipotent, and separate God.⁴ Kant, for example, rejected speech of God derived from our experience of the world. God was reduced to a postulate of the morality of

² Whitehead, 1930, p. 59-60.

³ See for a detailed discussion of this argument for example Rowe, 1978, p. 29-43.

⁴ Hume, 1948, p. 40.

practical reason. Whitehead, however, writes about his philosophy:

"The metaphysical doctrine, here expounded, finds the foundations of the world in the aesthetic experience, rather than - as with Kant - in the cognitive and conceptive experience. All order is therefore aesthetic order, and the moral order is merely certain aspects of aesthetic order. The actual order is the outcome of the aesthetic order, and the aesthetic order is derived from the immanence of God".⁵

Whitehead does not, however, deny the divine transcendence altogether, for "the definite determination which imposes ordered balance on the world requires an actual entity imposing its own unchanged consistency of character on every phase."⁶ Although Whitehead uses the term "imposing" here, what has to be stressed is the fact that the character that the actual entity acquires is never only determined or imposed by God, but involves an aspect of self-determination, as we have seen earlier on.

Although the world thus transcends God in some respect (God cannot determine the self-determination of the world), God transcends the world by having a stable character, which **always** affects the world.

However, it has to be pointed out that there is another way in which Whitehead, perhaps unwittingly, partially maintains the

⁵ Whitehead, 1930, p. 91-92.

⁶ Whitehead, 1930, p. 81-82; Whitehead, 1985, p. 221-222: God is the principle of limitation as "some particular *how* (...) and some particularisation in the *what* of matter of fact is necessary": "His existence is the ultimate irrationality (...) for no reason can be given for just that limitation which it stands in His nature to impose". He proceeds: "There is a metaphysical need for a principle of determination, but there can be no metaphysical reason for what is determined. If there were such a reason, there would be no need for any further principle: for metaphysics would already have provided the determination". This, however, should not be the end of our search for knowledge about God, for Whitehead proceeds: "What further can be known about God must be sought in the region of particular experiences, and therefore rests on an empirical basis."

extreme transcendence of classical theism which he otherwise criticises. This relates to the fact that Whitehead distinguished between two aspects of God, God's **primordial nature** which provides the initial aim (or the "initial phase of the 'subjective aim'") to the other actual entities, and God's **consequent nature** which receives something from the world.⁷ Whitehead wrote of the consequent nature that it is "the realization of the actual world in the unity of his nature, and through the transformation of his wisdom", and that it is "the weaving of God's physical feelings upon his primordial concepts".⁸ He also called it God's "judgment on the world" which is marked by "a tenderness which loses nothing that can be saved".⁹ The problem is that Whitehead never explained how these two aspects of God can be thought together consistently, which has resulted in unsolvable problems.

The providing of initial aims to the actual entities is reserved for the primordial nature of God. This activity is conceived of as a non-temporal or eternal ordering of all aims as relevant to all imaginable circumstances.¹⁰ God is thus conceived as a non-temporal actual entity, rather than - as in Hartshorne's view - as a chain of temporal actual entities which form an everlasting personal society.¹¹ However, Voskuil has observed that

"although (...) Whitehead injudiciously uses 'temporal' to refer only to fragmentary actual entities, he does

⁷ Whitehead, 1978, p. 67.

⁸ Whitehead, 1978, p. 345.

⁹ Whitehead, 1978, p. 346.

¹⁰ Whitehead, 1978, p. 7, 31.

¹¹ The latter view is defended most notably by Hartshorne, see for example Hartshorne, 1967.

come close to saying God is a personal series (a chain) functioning along the same principle (in the same way) as those in the world."¹²

The relevant passage is the following:

"An enduring personality in the temporal world is a route of occasions in which the successors with some peculiar completeness sum up their predecessors. The correlate fact in God's nature is an even more complete unity of life in a *chain* of elements for which succession does not mean loss of immediate unison. This element in God's nature inherits from the temporal counterpart according to the *same principle* as in the temporal world the future (present) inherits from the past."¹³

In spite of this text, Whitehead predominantly speaks of God as being one non-temporal entity, which inevitably leads to the

¹² Voskuil, 1999a, p. 133.

¹³ Voskuil, 1999a, p. 133: Quote from Whitehead, 1978, p. 350 (emphases added by Voskuil); Ford has remarked - in my opinion rightly - that the reason why Whitehead put the emphasis largely on the non-temporal aspect of God (who envisages uncreated, eternal objects or pure and abstract possibilities) may well be related to the fact that he thought that the only alternative would be the unilateral creation of the possibilities *ex nihilo* by God, a view which he rejected. (Ford, 1994, p. 205) To avoid the problem of how a non-temporal God can be related to the world, Ford has modified Whitehead by holding God to be fully temporal and by seeing possibilities as temporally emergent, so that "God, the occasion, the past, and even successor occasions conspire together in the creation of the novel eternal object" (Ford, 1994, p. 220). While Ford adopts a view in which God's activity is seen as 'the activity of the future' (for example Ford, 1980), I think this must lead to a denial of the indeterminate nature of the future (in spite of the fact that Ford would like to avoid this problem), which is why I prefer Frankenberg's interpretation of Whitehead where God is conceived as 'the power of the past' (Frankenberg, 1983). More recently this interpretation has been given further support by Griffin, 1998c, p. 204-205: Griffin refers to the fact that Whitehead supported the 'ontological principle' or the view that there are no free-floating Platonic ideas or abstract possibilities. Hence Whitehead concluded that the possibilities must be somewhere, and decided to locate them in the "mind of God" (Whitehead, 1978, p. 46) which can be physically prehended by us (as it exerts efficient causation). In Ford's view, this would inevitably lead to a deterministic worldview, wherein novelty is excluded (Ford, 1996a, p. 5). However, Ford may be overlooking the fact that the efficient causation of the past does not have to determine, but can also function as an objective lure for the present actual entity.

question how a transcendent non-temporal God can relate to a temporal world.

The standard interpretation of Whitehead holds that there simply must be a way in which God's offering of new aims to the world must have a temporal aspect. God is not just envisaging pure possibilities, but also real possibilities, which always relate to the temporal world.¹⁴ Griffin, for example, allows for an influence of the consequent nature on the primordial nature, and supplies his view as an authentic interpretation of Whitehead, based on the following text:

"For the perfected actuality passes back into the temporal world, and qualifies this world so that each temporal actuality includes it as an immediate fact of relevant experience. For the kingdom of heaven is with us today. What is done in the world is transformed into a reality in heaven, and the reality in heaven passes back into the world".¹⁵

The problem - which has also been recognised by Hurtubise - is that Griffin's interpretation may not be warranted by Whitehead's view, as the latter clearly regarded the primordial nature as "complete" and as "the unlimited conceptual realization of the absolute wealth of potentiality".¹⁶ In consequence, Hurtubise has

¹⁴ See for example Cobb, 1965, p. 155-156, 184; Suchocki, 1989.

¹⁵ Whitehead, 1978, p. 351; Griffin, 1976, p. 305.

¹⁶ Whitehead, 1978, p. 345 and 343 respectively; Hurtubise, 1998, p. 100; That Whitehead held the primordial nature to be complete relates to his view that the eternal objects are definite (Whitehead, 1978, p. 48), in the sense that they are clearly defined and distinct from one another. This allowed him to conceive of God's envisaging of the eternal objects as complete and eternal (a-temporal). It is here that we can situate one of the important differences between Whitehead's and Hartshorne's view. For the latter, these objects are indefinite and emergent in time, rather than eternal. (See for example Hartshorne, 1970, p. 122)

concluded that Whitehead "meant only that somehow the consequent nature is (or has to be) immanent in the world" when he wrote that "this nature itself passes into the temporal world according to its gradation of relevance to the various concrescent occasions", admitting that he did not know how this could be conceived.¹⁷

However, Palmyre Oomen - who recently completed a doctoral dissertation on the relevance of Whitehead for a theology of God's efficacy - is convinced that Whitehead did not see a problem in distinguishing between the primordial and the consequent nature. In fact, Whitehead would have had no reason to change his view that God, in his primordial nature, is "untrammelled by reference to any particular course of things", which leads Oomen to conclude that He/She is as immutable as Aristotle's Unmovable Mover in His/Her role as provider of aims.¹⁸ Oomen suggests that her interpretation of Whitehead is accurate for the following reasons. First of all, if - in the alternative scenario - God were temporally to conceive of radically new possibilities which are then provided as aims to the creatures, the question would arise as to where these new 'eternal objects' come from, inevitably leading to a *regressio ad infinitum*. This problem was overcome by Whitehead by his view that God values the possibilities

¹⁷ Hurtubise, 1998, p. 104; Whitehead, 1978, p. 350.

¹⁸ Oomen, 1998b, p. 268, p. 292-293: Oomen compares God's primordial nature with a railway timetable, which provides the best train to aim for within each particular situation, without knowing anyone's particular situation.; Whitehead, 1978, p. 344.

nontemporally.¹⁹

And **secondly**, this view renders intelligible why God cannot be held accountable for the clashing of realised aims in the real world: God only conceives of these aims in **abstraction** from the real world.²⁰

At the same time Oomen provides an account for why it is possible for higher organisms - especially humans - to avoid the clashing with one another. It relates to the fact that only they can apprehend the consequent nature of God.²¹

An obvious problem with Oomen's account is that we are left with a **dualistic** view of God(s): what remains unclear is how the primordial and the consequent nature are integrated, which was - as we have shown - also Whitehead's problem.²² Oomen conceives of the consequent nature, indeed, as having a role that is radically different from the role played by the primordial nature.

¹⁹ Oomen, 1998c, p. 115-116; Oomen, 1998b, p. 287, note 325, p. 323: Oomen points out that this is a problem for the societal view of God. It would hold that there are phases of indeterminacy in God which are determined in acts of determination. Oomen points out that it is not clear where God would then get His/Her aim from. A further problem - in Oomen's view - is that God would not be prehensible when indeterminate. We shall see below, however, that Oomen's problems are pseudo-problems.

²⁰ Oomen, 1998c, p. 130-131; Oomen, 1998b, p. 533-535.

²¹ Oomen, 1998c, p. 130 note 44; Oomen, 1998b, p. 535-538.

²² Whitehead acknowledged that this was a serious problem in a conversation he had with A. H. Johnson in 1936, which is reported in Johnson, 1983, p. 9-10: "JOHNSON: "If God never 'perishes', how can he provide data for other actual entities? Data are only available after the 'internal existence' of the actual entity 'has evaporated' (PR 336)." WHITEHEAD: "This is a genuine problem. I have not attempted to solve it." Reference is made by Johnson to the original version of *Process and Reality*, which is in Whitehead, 1978, p. 220.

God provides - by means of His/Her consequent nature - a lure to the higher organisms (or humans?) which allows them to question their egoism and transcend themselves, while also providing a competing lure - by means of His/Her primordial nature, which is geared towards the subject's egoistic needs.²³

Another problem with Oomen's account is the **prehensibility** of the **consequent** nature: if the consequent nature is - in Whitehead's words - "never perishing", "always in concrescence", and "incomplete", it cannot be objectified, and what cannot be objectified cannot be prehended: an actual entity is either a subject or an object, but not both at the same time.²⁴ This undermines Oomen's interpretation.²⁵

If God's consequent nature is not prehensible, it is clear that

²³ Oomen, 1998c, p. 132; Oomen, 1998a, p. 330; Oomen, 1998b, p. 392, 345-346 (with reference to Whitehead, 1978, p. 32), 402, 396: Oomen explains the difference between the function of the primordial nature and the function of the consequent nature also by referring to different accounts of providence: while the former relates to "general providence for particular occasions", the latter relates to "particular providence for particular occasions" (where the latter is used explicitly in Whitehead, 1978, p. 351).

²⁴ Whitehead, 1978, p. 31, 345-346, p. 61: Whitehead knew that Einstein's theory of relativity meant that "contemporary events happen in *causal* independence of one another".; That God's consequent nature is an everlasting process that never 'perishes' or reaches 'satisfaction' (which is a condition *sine qua non* for its prehension by actual entities) may be expressed, for example, in Whitehead, 1978, p. 346: "Always immediate, always many, always one, always with novel advance, moving onward and never perishing". The question rises if 'perishing' is here synonymous with 'reaching satisfaction' or with the idea that God never perishes as a temporal society of actual entities?

²⁵ This problem may be overcome by dropping the so-called 'entitative view of God': The entitative view is the view that God is one actual entity, rather than a route or society of actual entities. We will return to this issue further below.

only the primordial nature or the unchanging aspect of God can influence the world. This conclusion has been drawn by Allan, who summarises what he presents as Whitehead's position as follows:

"God can only be present for the occasions' prehensions as the totality of all possible combinations of valuational features, as an unalterable plenum of objects for prehension the origination of which is prior to that of any created object, a plenum of eternal objects ordered in all possibly relevant ways for any possible occasion."²⁶

This conclusion is problematic for Ford, who has pointed out that "both the primordial God and the eternal objects bear no relationship to the world" as they "are what they are regardless of the career of the world", while the consequent nature does not seem to provide much of a relationship either as it is - also in Ford's view - impenetrable.²⁷

To escape the conclusion that, in this view, God remains as **indifferent** to the world as in classical theism, Ford has **modified** the Whiteheadian scheme at two crucial points.

First of all, Ford thinks it is possible for actual occasions to be influenced by God with God being neither part of the objective datum of the world (that is: the past) nor having independent or transcendent existence.

And **secondly**, the eternal objects or indeterminate possibilities are not eternal or timeless, but have to be understood as temporally emergent. Ford does not, however, agree with Oomen that the consequent nature of God is prehensible, but argues that the power of the actual occasion to prehend is granted by God.

²⁶ Allan, 1998, p. 65.

²⁷ Ford, 1994, p. 205.

There is no need anymore for two separate natures of God: God is to be regarded as **the activity of the future**. For Ford, there are three modes of actuality: "the past as determinately actual, the present as the activity of determination, and the future as activity, transferring the power of creativity to the present".²⁸ This leads him to speak of future causation: the future then has to be understood as that what might be, rather than in terms of what will be.²⁹ While Whitehead recognised the importance of particular providence, his system could only account for general providence (God is determining what is purely possible). For Ford, on the other hand, there is particular providence, as God determines what is really possible.³⁰ There is no room left for the idea that there are eternal objects: a wholly temporal God is incompatible with the existence of eternal objects.³¹ Although God in se is purely future and not prehensible, He/She may be present in us in the way the initial aim is present in the

²⁸ Ford, 1996a, p. 11; Ford, 1986, p. 188-189: What Ford's modification does is "extend Whitehead's concept of the order of succession within becoming to apply to the future outside the concrescent occasion. Being earlier, that future can influence the later present".

²⁹ Ford, 1986, p. 179.

³⁰ Whitehead, 1978, p. 31-32; Ford, 1986, p. 193-194; Ford, 1998, p. 140; What we should not forget, however, is that Whitehead - in spite of not being able to provide an argument for particular providence - clearly presupposed it when writing, for example, that God "is the poet of the world, with tender patience leading it by his vision of truth, beauty, and goodness", "with a tender care that nothing be lost" (Whitehead, 1978, p. 346). It is impossible to conceive of God leading the world by providing the world with aims with tenderness without assuming at the same time that God knows the temporal world.

³¹ Ford, 1996b, p. 141.

occasion.³² God thus knows what the world is likely to be, is sensitive to it before it is objectified.

What Ford has perceived rightly is that it is inconceivable how eternal objects can become ingredient in the temporal world. Yet in spite of his efforts, the view that there are eternal objects is maintained by numerous process theologians. Griffin, for example, agrees with Whitehead that there is an abstract realm of possibilities, which are ordered primordially by God. When I asked him about the status of these eternal objects, he repeated his view that they are "essentially outside the space-time continuum" by asking the rhetorical question: "for something to be completely impossible to become possible, how would that be?", implying that there is a complete set of fixed possibilities which constitutes the boundaries within which new actual entities can emerge.³³ Although I originally agreed with him about this seemingly self-evident fact, I have now changed my mind. If the universe is open-ended and partially self-creative (as I believe it is), then not even God can foresee what will be possible at a later date: what is completely impossible now may not be completely impossible at a later date. A similar idea is found in Ford where he writes that God "incites the occasion toward its goal without necessarily spelling out in advance what that goal shall be", provided that we understand him as implying that the

³² Ford, 1986, p. 192; Ford, 1996a, p. 23-24.

³³ Griffin, 1998c, p. 228; The second quote is from a personal communication we had on 18 November 1998.

goal is still a goal, rather than pure chance.³⁴ If God is solely temporal, there can be no eternal objects.³⁵

In spite of agreeing with Ford on this, I **cannot agree with his view that there is future causation.** It is inconceivable how the future can be real in any sense. Ford violates Whitehead's so-called 'ontological principle' according to which there are no free-floating Platonic ideas (a principle which Whitehead himself ignored where he posited eternal objects) or, in Whitehead's words that "actual entities are the only reasons", not future possibilities.³⁶ Whitehead rightly asserts that "all conceptual feelings are derived from physical feelings", and that novelty arises from "hybrid feelings with God's conceptual feelings as data".³⁷ Thus it is clear that the future cannot exert any causation.

Also, I do not agree with Ford in holding God to be the single everlasting concrescence.³⁸ Since - as Whitehead says - "God is not to be treated as an exception to all metaphysical principles, invoked to save their collapse", we argue for the Hartshornian view that God is a **temporal series or chain of actual entities.** At every unit of time, God perishes or becomes objectified just like all other actual entities. Yet this does not amount to the

³⁴ Ford, 1994, p. 217.

³⁵ Ford, 1996b, p. 141.

³⁶ Whitehead, 1978, p. 24.

³⁷ Whitehead, 1978, p. 246-247.

³⁸ Ford, 1996a, p. 16.

view that God dies, as God is an everlasting series of actual entities. This is grounded in some animals' belief that there is some constancy of value, beauty, and harmony in the universe, which may also be the ground why we have - in Schillebeeckx' words - "negative contrast experiences".³⁹ These **negative contrast experiences** are shared by most people. They relate to a deep feeling that a certain practice or situation goes too far and should not be tolerated, for example the spraying of DDT on vegetables.

As we have seen, Whitehead was not able to show how God's valuation of the world (God's consequent nature) could play a role in God's offering of aims to the world.⁴⁰ Our negative contrast experiences, however - which contrast how the world is with how God would like it to be - show *par excellence* that there is an element in our immediate past which directs us towards harmony, beauty, value, or the good. This is God's valuation of the world, which is always growing. Since these contrast experiences incite us to good actions, this must be the way in which God provides aims to the world. As an element of the past, God's aim is prehended as "the initial 'object of desire" establishing the initial phase of each subjective aim".⁴¹ Since God's aim is an element of the past, it has efficient causation, but the way in

³⁹ See for example Schillebeeckx, 1989, p. 24.

⁴⁰ Whitehead, 1978, p. 12-13: Whitehead states his view that the consequent nature does not influence the primordial nature as follows: "the 'consequent nature' of God (...) evolves in its relationship to the evolving world without derogation to the eternal completion of its primordial nature".

⁴¹ Whitehead, 1978, p. 344.

which it is prehended depends on the presently concreting entity's self-causation, who/which uses the element of the past to reach its own 'satisfaction' in anticipation of the future (final causation).

As I subscribe to a societal view of God, I think God really 'perishes' when the actual entities are provided with aims: to be able to be prehended, God must reach 'satisfaction'. God does not have to envisage eternal objects in a non-temporal way to be capable of providing novel aims to the world. It is sufficient to say that there is just one aspect of God - regarded as a society of occasions - that is completely independent of the world, or primordial. This is God's general character, which may arguably be characterised as love. With Pailin, we could call this "an undefeatable love that (...) persistently seeks to draw people towards ever more fulfilling expressions of creative satisfaction".⁴² But, as with all characters, characters change over time (consequent states of God), although the general pattern of God's character may persist. I do not think that Oomen is right in pointing out that a societal view of God creates the problem that God is momentarily indeterminate and - as a result - cannot be prehended.⁴³ Although God - as presently concreting or in His/Her present subjective act - is imprehensible, the concrete God of the past is prehensible. Although the concrete God is determinate, in the initial phase of the concreting subject the objectified God is prehended as an indeterminate lure. Thus we arrive at a conception of God as wholly temporal, but everlasting.

⁴² Pailin, 1996, p. 45.

⁴³ Oomen, 1998b, p. 323.

The fact that God is temporal has been perceived better and with more coherence by Charles Hartshorne and his intellectual associates than by Whitehead. Their view on God is also known by the name **panentheism**: God is present in everything without being exhausted by everything, or God is the soul of the world.⁴⁴ The most remarkable Scriptural texts in support of panentheism are Acts 17, 28 "In him we live and move and have our being" and 1 Cor. 15, 28 "that God may be all in all".⁴⁵

For many theologians, the word 'panentheism' has a bad reputation. It is interesting to see how it is defined by one of the more renowned theological dictionaries:

*"Dieses Form des Pantheismus will nicht einfach Welt und Gott monistisch identifizieren (Gott = das 'All'), will aber doch das 'All' der Welt 'in' Gott als dessen innere Modifikation und Erscheinung begreifen, wenn Gott auch nicht darin aufgeht."*⁴⁶

The qualification of panentheism as some form of pantheism is erroneous. Panentheists propose a conceptual framework that opposes fundamentally the common assumption of both classical theism and pantheism, which is the view that God cannot really

⁴⁴ On panentheism see Hartshorne and Reese, 1976, p. 1-57, 233-334, and especially 499-524; On God as soul of the world see Hartshorne, 1984, p. 59, 134-135.

⁴⁵ Van der Veken, 1978, p. 13; Pailin, 1992, p. 2: Pailin has remarked that the term 'panentheism' is relatively new as it was introduced by K.F.C. Krause (1781-1832). This could lead to the impression that it is a threat to the authentic Christian faith. However, this should not be the case, as panentheism supplies a way to articulate the Christian faith in a rationally coherent way. The notion is adequate with regards to both philosophical views on what is ultimate in being, in the experience of values, in rationality, and the actual religious belief in the living God of the religions prophetically revealed by Abraham, Moses, Jesus, and Muhammed.

⁴⁶ Rahner & Vorgrimler, 1961, p. 275.

be temporal and have relations with particular other entities.⁴⁷ I agree with Pailin where he summarises Samuel Alexander's (one of Whitehead's intellectual associates) view on this as follows:

"Classical pantheism is unsatisfactory because it denies the personal nature of the divine and the individuality of the believer; classical theism is unsatisfactory because its notion of a wholly transcendent God sabotages any affirmation of significant relations between God and the world."⁴⁸

The adequate category to understand the connection between God and the world is no longer *separatio*, as was held in classical theism, but *relatio*. The support that was given by classical theism to the Hellenistic assumption that relatedness implies imperfection, is emphatically rejected. Panentheists point out that the relationship between God and the world is mutual and real. Rather than following Whitehead in holding that God is transcendent as being non-temporal and as envisaging the initial aims in complete abstraction from the real world, it makes more sense to see the divine transcendence as that aspect of God which brings permanence and order to the world, or in the words of

⁴⁷ Ogden, 1966, p. 60-63: Ogden points out that writers such as Spinoza, Hegel, Schleiermacher, and Royce (who sometimes have been referred to as pantheists - and we do not consider here whether or not this attribution could be justified), and classical theistic thinkers, started from the same assumption: the rejection of God understood as really temporal and related to others. If one takes this rejection as a starting point, then a choice between two alternatives is left, represented respectively by Thomas Aquinas and by Spinoza. Either we conceive, with Aquinas, of God as a reality that is completely separate from the world and as part of a larger whole that somehow includes God and world. Or we agree with Spinoza by holding that God includes the world in such a way that the world is totally necessary and our experience of contingency is illusory.

⁴⁸ Pailin, 1992, p. 15: With 'classical pantheism' Pailin refers primarily to the philosophy of Spinoza: as God's freedom, rationality, and will is denied, what is left is a very impersonal view of the deity. Apart from this, the individual person is no more than a necessary modification of the Absolute.

Voskuil: "Loving in an unsurpassable way is God's changeless (...) aim, an aim to embrace all and influence all to be loveable."⁴⁹

Now that we have sketched the basic contours of how process theists conceive of the relation between God and the world, it is time to highlight how all the specific problems that we addressed before in classical theism can be overcome by panentheism. In what follows we will inevitably repeat and develop some of the points we made before.

3.2. Process Theism as an Alternative for the Specific Problems Related to Classical Theism

3.2.1. Process Theism and Creation

First of all, God does **not** create **unilaterally**, but provides initial aims to the creatures.⁵⁰ The word 'creatures' is, in fact, misleading as all actual entities are co-creators. God can only provide lures or initial aims to the initial phase that constitutes every new actual entity, but it depends largely upon the actual entity's decision if the possibility provided by God will be actualised. God is not working over against or beyond the actual entity's choice to determine its own future, but as a guide for the best alternatives to be chosen. The actual entities are constantly being lured or persuaded, not forced, to choose from

⁴⁹ Voskuil, 1999a, p. 131.

⁵⁰ Although the initial aim is a final cause, the act of providing the initial aim is an efficient cause of God.

the realm of possibilities that particular possibility that is best within the present circumstances, in order for the world to become more harmonious. The discrepancy between the initial aim and the subjective aim results from the fact that the Ultimate is not God, but **creativity or ongoingness**.⁵¹

Ivor Leclerc has pointed out that, by considering creativity as the Ultimate, Whitehead tried to resolve the problems connected to the doctrine of *creatio ex nihilo* and to emanationism, without jeopardising the supremacy or transcendence of God over creation (the conservation of which was the central objective of the doctrine of *creatio ex nihilo*).

The former doctrine relies on the analogy of the human craftsman, who always fabricates from already existing matter. If we now consider God's creativity and assume that there was no pre-existent matter - the *ex nihilo* denies this possibility -, then the entire analogy is destroyed because the *creatio* becomes completely incomprehensible. In classical theism, however, the doctrine was accepted without objection by appeal to the divine omnipotence.

The doctrine of emanationism, however, is also marked with difficulties. If everything flows forth from the One, how can it then be from a different nature than the One? In that case, pantheism seems inevitable.⁵²

⁵¹ Whitehead, 1978, p. 21.

⁵² Leclerc, 1969-1970, p. 450-451; Oomen, 1998b, p. 382, note 77: Oomen has perceived rightly that Moltmann has not seen that Whitehead's rejection of the *creatio ex nihilo* does not have to lead to the conclusion pointed out in Moltmann, 1985, p. 91: "dann muss der Weltprozess ebenso anfanglos und ewig wie Gott selbst

Whitehead holds that it is more coherent to understand the creative process and God as existing co-eternally. Whitehead goes along with Plato in holding that a unity without plurality is impossible and in rejecting the idea that plurality would have its source in unity. The existence of this world is contingent for Whitehead, not the existence of a world, since God's primordial nature is marked by "yearning after concrete facts - no particular facts, but after *some* actuality".⁵³ What this boils down to is that God needs the world as much as the world needs God.⁵⁴ The world depends on God (for being provided with aims) and God depends on the world (for the actualisation of the aims).

The creation then has to be understood neither as happening at some point a long time ago nor as being sustained by an invariable divine influence. God is always active as a causal factor in the world, without being an invariable influence.

It is in this context that we have to understand Griffin's reaction against Dawkins, who has argued that it is possible to give an atheistic explanation to all the natural phenomena that seem to suggest theistic design. Griffin argues that neo-Darwinism is "a theory in crisis", therewith using the subtitle of Michael

sein. Ist er aber anfanglos und ewig wie Gott selbst, dann muss er selbst eine der Naturen Gottes sein. Dann aber muss man von der 'Vergottung der Welt' sprechen".

⁵³ Whitehead, 1978, p. 33.

⁵⁴ Barbour, 1997, p. 296: Barbour remarks rightly that Whitehead did not support Plato's ultimate dualism holding that God struggles to impose form on recalcitrant matter. Although a world which - to some extent - determines itself, is given to God, all actual occasions depend on God for their existence and for their range of actualisable possibilities.

Denton's book 'Evolution'.⁵⁵ Among the features which are not adequately explained by neo-Darwinism, Griffin counts the directionality of evolution and the fact that the fossil record suggests extended periods of equilibrium succeeded by rapid changes rather than the very gradual, cumulative, changes predicted by neo-Darwinism. If there is a divine influence at work in the evolution of life on earth which lures towards new and more complex forms of life, we can understand why complexity has increased in some lines and why evolution has taken a series of leaps, rather than having taken very small steps.⁵⁶

Intermezzo: Process Theism and Pantheism

As we mentioned before, panentheism may have a bad name because it is often confused with pantheism, which is also thriving in our 'New Age'. Critique of the latter is easily mistaken as also facing the former.

An example of someone who moved from classical theism to a position that comes dangerously close to pantheism is the view of **Matthew Fox**. Fox substitutes what he calls fall/redemption theology by a 'creation (centred) spirituality'. Most Western theologians, and Augustine *par excellence*, are then classified by Fox as belonging to a fall/redemption tradition which promotes various dualisms: between subject and object, human and nonhuman,

⁵⁵ Griffin, 1998b, p. 26-27: Reference is made to Denton, 1991; Griffin, 1998a, p. 2: Griffin rejects in this context one of the "fashionable dogmas of our day", which is the idea of the "omnicompetence of science as a cognitive activity".

⁵⁶ Griffin, 1998b, p. 27, 32; Griffin, 1998a, p. 9; For Dawkins' 'gradualism', see for example Dawkins, 1995, p. 151-161.

body and soul, God and nature, and blessing and sin. These dualisms can ultimately be traced back to Augustine's doctrine of original sin: humanity and the rest of creation are intrinsically sinful and everything that is related to body and sexuality is morally suspect. God has to be looked for not in nature, but introspectively in the human soul. According to Fox, this Christian desacralisation of the world would eventually cause the ecological crisis.⁵⁷

Fox' assessment of the Christian tradition has been responded to with severe criticisms. Bauckham, for example, has referred to passages from Augustine showing that both nonhuman nature and the human body are considered to be beautiful and may be regarded as expressions of the goodness of the Creator. Further, the categorisation of Western Christian theologians as belonging to either fall/redemption or creation centred spirituality, is - as Bauckham rightly argues - an oversimplification. Although Francis of Assisi is praised by Fox for belonging to the latter, Fox forgets that Francis does not hesitate to speak of fall and redemption.⁵⁸ In my opinion, it would be more reasonable had Fox made a distinction, within the same Western Christian tradition, between a classical theistic tendency (with a stress on separateness) on the one hand and a mystical tendency (with a stress on presence) on the other hand. It will be clear, however, that Western theologians cannot easily be classified as belonging to either of these tendencies. Indeed, we should rather place

⁵⁷ Fox, 1983, p. 48.

⁵⁸ Bauckham, 1996, p. 120-121.

individual theologians, or better, even different texts written by identical theologians, somewhere on a continuum between both tendencies. But at the same time we should not forget that our tradition has overemphasised the classical theistic tendency which regards God -and by analogy: humanity - as being to a great extent separate from the world, which has led to a devaluation of nonhuman nature causing all sorts of problems, most notably contributing to the present ecological crisis. In this respect, it is undeniably true that not only Augustine, but the whole Western Christian tradition before and after him, was influenced - to varying degrees - by Greek philosophy, for example by the Platonic hierarchical view of nature in which human beings ought to separate themselves somehow from the visible material world to acquire knowledge of the separate, spiritual world, by the Aristotelian view of God as the Unmovable Mover, and by the Stoic view that irrational creatures exist for the sake of rational ones.

A possible objection to this could be that it was not the turn away from the material realm of nature and the turn to God that brought about the ecological crisis, but rather the ruthless domination and activist refashioning of nature. This may be countered, however, by the plausible argument that the alienation from nature was the necessary condition for its subsequent exploitation. Therefore, contrary to Bauckham, who - in reacting to Fox - writes that "the Christian sense of creation was not lost by introspective piety in flight from nature (...); it was destroyed by the human assumption of godlike supremacy and

creativity in relation to nature (the Renaissance humanist and Enlightenment tradition which has actually created the modern world)", I think that the former was essentially related to the latter.⁵⁹

But we can go along with Northcott and Bauckham, for example, who stipulate that Fox has downplayed the distinction between God and the world. Unlike process thought, Fox indeed conceives of God as being both light and darkness, the creator of blessing and of misery. Redemption is not the victory of good over evil, but merely the balancing of the two paths of creation spirituality, what Fox understands by the *Via Positiva* and the *Via Negativa*. Fox writes that the former is associated with awe, beauty, harmony, and blessing, while the latter is related to misery, pain, suffering, and death. Christ's death shows us that the fear of death has to be embraced rather than shunned.⁶⁰ If this is the

⁵⁹ Bauckham, 1996, p. 123: Bauckham proceeds: "This is where Fox's misreading of history has led to a major mistake. It follows that an introspective obsession with our personal sin or ascetic attitudes to our own bodies are really not the problem. (In any case there is not much evidence of them in contemporary Christianity.)" Although I agree with Bauckham that there have been people in the Christian tradition who, in spite of their ascetism to their own bodies, celebrated the beauty of the natural creation, it must also be acknowledged that: 1/ this has not always been the case, and 2/ the fact that this ambivalent attitude has existed might be an expression of the difficulties people had to harmonise the Christian faith with Greek philosophy which may generally be held to be more negative in its appreciation of the material world. Although I would favour a more positive appreciation of our bodily existence, this does not imply that I oppose all forms of ascetism. Indeed, a proper ascetism may be appropriate as a reaction against our consumerist society. The only thing that I really want to oppose here is the negative appreciation of the material over against the spiritual world that has been part of much of our Christian tradition. In this respect, I also oppose views which hold that the natural world is *in se* sinful.

⁶⁰ Fox, 1983, p. 129ff; Fox, 1991, p. 20, 73, 143, 167.

case, God indeed tends to be identified with everything that happens in the world so that we can no longer distinguish His/Her good will from all the evil that is happening in the world, which has been perceived rightly by Northcott.⁶¹ Fox' pantheistic allegiance is also betrayed by him speaking frequently of trusting ourselves and trusting the world, and hardly ever of trusting God, and by the frequent use of 'divine' in relation to humanity and nature.⁶²

In reaction against Fox' and similar approaches such as those by Grace Jantzen and Sally McFague (who speaks of God as "embodied spirit" or "inspired body of the universe") Northcott has rightly warned against the dangers of the identification of nature/evolutionary history with the purposes of God.⁶³ If we identify God with everything that happens in the world, we can no longer distinguish His/Her good will from all the evil that is happening in the world. Then, also the moral law becomes opaque and arbitrary: both ecocentrism (e.g. Fox, McFague) and strong anthropocentrism (e.g. de Chardin) may be supported. Northcott provides the very monistic system of Shintoism that is thriving in Japan as an illustration that monism does not necessarily lead to ecocentrism. Therefore he contends rightly that God must

⁶¹ Northcott, 1996, p. 156.

⁶² Fox, 1983, p. 184, 236; Fox, 1991, p. 8, 18, 22, 47, 58; Bauckham, 1996, p. 125: Bauckham remarks that Fox speaks only once of 'trusting God' in *Original Blessing*. See Fox, 1983, p. 283.

⁶³ McFague, 1993, p. 20; Northcott, 1996, p. 157-162: Reference is made to Jantzen, 1984.

clearly be distinguished from creation.⁶⁴

3.2.2. Process Theism and the Problem of Evil

Evil happens when "destruction" is "a dominant fact in the experience", in other words, when the variety of prehensions cannot be integrated harmoniously by the actual entity, which also affects future actual entities.⁶⁵ As God does not create without the help of creatures, and as God is providing aims which maximise "intensity of feeling", evil is the result of the freedom of the actual entities, excluding God.⁶⁶ The problem of evil that is posed by the overwhelming presence of chaotic or dysteleological forces in the natural world no longer questions the existence of an all-good God if we no longer conceive of God as unilateral Creator.

This, however, has been a problem for some Whiteheadians, for example for Sherburne and Oomen. Sherburne has pointed out that God, if He/She had perfect knowledge of reality, would be able to provide those aims that prevent the entities from clashing with one another. While for him this was sufficient ground to opt for a 'Whitehead without God', Oomen subscribes to the interpretation of Whitehead we presented above: God only provides initial aims without reference to the actual world, and without reference to

⁶⁴ Northcott, 1996, p. 160-165.

⁶⁵ Whitehead, 1933, p. 333.

⁶⁶ Whitehead, 1978, p. 27.

the common 'interests' of all actual entities.⁶⁷ God only provides the initial aims by imagining how they could be realised under all imaginable circumstances. Since God - in His/Her primordial nature - lacks knowledge of the actual world, it would be wrong to conclude that God wants the actual entities to clash with one another by realising their aims.⁶⁸ Oomen emphasises the fact that Whitehead wrote about God that He/She is "untrammelled by reference to any particular course of things" and "remorseless".⁶⁹

Yet **some reservations** have to be made here. Oomen omits the fact that Whitehead writes that the primordial "function of God is analogous to the remorseless working of things in Greek and in Buddhist thought", and as with all analogy, we must question to what extent we can speak of a sameness.⁷⁰ Also, it is not excluded to interpret Whitehead as saying: God is untrammelled or unhindered by anything in the world, as He/She will continue to provide new aims to the world in order to produce beauty and goodness, no matter what happens. Since Whitehead puts so much emphasis on the love of God when he talks of the consequent nature, it may not be out of the question to think that Whitehead had a loving character in mind when he wrote that "the primordial nature of

⁶⁷ Sherburne, 1986, p. 89; Oomen, 1998b, p. 530-531.

⁶⁸ Oomen, 1998b, p. 524-533: The crucial text for Oomen's conclusion that God provides initial aims to all actual entities without reference to how they constitute a whole is Whitehead, 1978, p. 244: "The initial aim is the best for that *impasse*. But if the best be bad, then the ruthlessness of God can be personified as *Atè*, the goddess of mischief."

⁶⁹ Oomen, 1998b, p. 531.

⁷⁰ Whitehead, 1978, p. 244.

God is the acquirement by creativity of a primordial character".⁷¹ Whatever be the case, as we have seen before, Whitehead's system lures towards being corrected in this way: the consequent states of God must qualify the primordial character and play a role in the providing of aims to the non-divine actual entities! What this implies is that the distinction between the primordial and the consequent nature has to be given up. Instead, we simply say that God gives to or changes and receives from or is changed by the world.

If Oomen's interpretation, however, is right, God provides aims **without reference** to the particular world and to the way the particular entities relate to one another or glue together, as He/She would only aim "at intensity of feeling (...) in the immediate subject".⁷² God is then, at least indirectly, the condition for the existence of conflicting purposes, and hence evil, which is the price Whitehead would have to pay for his "connected pluralism" (which is the view that God provides a plurality of aims to a plurality of interconnected actual entities).⁷³ This would not necessarily make God responsible for evil, but at least make Him/Her quite helpless.

But it is clear that this does not sit easily with some of Whitehead's other expressions such as that "God is the great

⁷¹ Whitehead, 1978, p. 344.

⁷² Whitehead, 1978, p. 27; Oomen, 1998b, p. 528.

⁷³ Oomen, 1998b, p. 528: For the notion 'connected pluralism' reference is made to Lowe, 1966, p. 35.

companion - the fellow-sufferer who understands" and especially that "He saves the world" (...) with "a tenderness which loses nothing that can be saved".⁷⁴ What would this tenderness be if it could not be prehended by the world and if it could not function as eliciting a response from the world to God's offering of aims. Surely, to feel or to be able to speak of God's tenderness, it must also be possible for the actual entities to realise their aims in such a way that they do not - at least not always - conflict with one another. The tenderness of God would be a mere abstraction if the way in which we experience other entities would exclude tenderness. In Oomen's view, however, the tenderness of God is prehensible in a way that is unrelated to our prehension of aims. But if the goodness of what is actualised by the actual entities depends on the degree to which the actual entities act in accordance with their divine aim, then their tenderness depends on it (at least if we call tenderness something that is good). And since God only acts by providing aims, there is no other way in which we can come up with the idea that God is tender except by our prehension of other actual entities. Put briefly: God shows that He/She is tender by providing the actual entities with aims which are directed towards tenderness. **Contrary to Oomen's view**, God provides the actual entities with aims, adjusting them to one another so that the world can be less

⁷⁴ Whitehead, 1978, p. 351, 346; Whitehead, 1930, p. 140: Whitehead writes here that God "provides the ideal consequent, as a factor saving the world from evil.(...) He adds himself to the actual ground from which every creative act takes its rise". This text suggests quite clearly, contrary to Oomen's interpretation, that God has knowledge of the world in providing aims. It also expresses Whitehead's belief that God is not overcome by evil, but never gives up trying to make the world a better place.

conflictual, and more harmonious.

This is why we have argued above that God's providing of aims must be affected by what happens in the world.⁷⁵ God is confined by the world: He/She can only provide the aims that are possible under the particular circumstances, which depend entirely on how previous actual entities have responded to God's aims, that is: on how they have created themselves.

Thus it can be so that the best possible aim for a particular situation is still bad. Evil can be the result of the actual entities either not making or not being capable of making (because of their being constituted largely by the past) the best or better decisions whilst creating themselves, which may result in the clashing of the actual entities with one another. An illustration of Whitehead's view that "there is evil when things are at cross purposes" is then for example the eating by a swarm of locusts of a corn field destined for human consumption.⁷⁶ **Contrary to Oomen's view**, this conflict of interests is not the inevitable upshot of God providing conflicting aims. **God's aims do not conflict!**

However, Oomen contends that God would necessarily be responsible for evil if He/She would know the concrete situation of the actual entities, and use this knowledge to provide aims. She gives two

⁷⁵ In support of this conclusion, we could also refer, for example, to Whitehead, 1930, p. 87 and p. 94 respectively: "The purpose of God is the attainment of value in the temporal world." and "There is no entity, not even God, 'which requires nothing but itself in order to exist'."

⁷⁶ Whitehead, 1930, p. 84.

examples which demonstrate why this conclusion would be inevitable. Why would God lure hydrogen to fuse, knowing that it is part of a bomb? And secondly, why would God lure a cancer cell to grow when it is part of the body of a widow who has the responsibility for three children?⁷⁷

The fact that there are conflicts in the world has led Ruth Page to question radically whether God's activity in the world can be seen as providing the entities with aims. In her view, this inevitably would imply that God is responsible for evil, since:

"Given the degree of truth in 'nature red in tooth and claw', if these creaturely forms have fulfilled their aim, then the total aim envisaged by God must include the stress and death involved in food chains, the way in which some animals like cats play with their prey, and so forth. Nor can the clashes and suffering which occur be subsumed under some greater evolutionary good, like increasing intelligence or complexity, if God is equally present with each *individual* creature, and is not distantly observing the *process*."⁷⁸

In other words: is it really credible to hold that God gives the lion the aim to kill the deer and the deer the aim to flee from the lion? It could be argued that God would then contradict Himself/Herself, lead to conflict in the world, and be responsible for evil.

To avoid this conclusion, I think it is better to conceive of the actual state of affairs in the world as providing ground for the view that God is having great difficulty to persuade us to follow

⁷⁷ Oomen, 1998b, p. 533.

⁷⁸ Page, 1996, p. 47-48, p. 93-94: Page's theology is - like Whitehead's - developed as a reaction against an unsatisfactory answer to the theodicy question in traditional theologies. One of the crucial questions addressed in her book is whether God cares for the natural world "given the amount of entirely natural suffering and species extinction within it"?

His/Her aims. For Loomer, the actual state of the world provides evidence for his belief that God is always at an impasse and that the unambiguous character of God may only be an abstraction.⁷⁹ But the problem with this view - which has been perceived rightly by Pederson - is that God becomes simply identified with the ambiguity of the world, and there is no ground left for belief in God being capable of overcoming what is evil in the world.⁸⁰ It is clear that the vast amount of evil in the world shows that the lures towards harmony are not realised very accurately, which shows, in the words of Voskuil, that "God's influence can never be fully determinate nor eliminate tragedy since the world's acts are necessarily somewhat self-directed".⁸¹ But this should **never** be attributed to a **weakness on God's behalf**. If it were, the belief that there is an ontological and moral distinction between God and the world would be challenged, and our hope for a better world would be groundless. God knows that the cancer cell is in a human body, but is not luring it to develop. We have to remind ourselves of the fact that Whitehead held that the concrete situation (that is: the actual entities of the past) also influences the presently conerescing actual entities. The past may then be so constraining that the lure of God may be the best for a particular situation, but incapable - even when perfectly actualised - of preventing evil, which is something that God is not responsible for.

⁷⁹ Loomer, 1975, p. 366.

⁸⁰ Pederson, 1994, p. 146-148.

⁸¹ Voskuil, 1999a, p. 131.

We now turn to a **different** aspect of the **problem of evil**.

In some forms of classical theism, the alleged essential goodness of the natural order was harmonised with the existence of **natural evil** by seeing the latter as the result of human or **moral evil**.

An example of such a view is Northcott, where he argues that

"faith in natural providence also involves trust in nature's abundance; competition for scarce resources is not the natural condition of life. (...) When we respect the integrity of created order as reflecting the justice of God, we will seek to preserve the balance and harmony of natural systems, and the earth will give her fruits in due season. (...) The disruptions of natural disasters are signs of disturbances in human and divine relationships, of human mismanagement of nature and society, rather than evidence of natural evil."⁸²

In other words: if human beings worship and obey God, everything (including the nonhuman world) will fall into place. Sometimes this view is authorised by reference to the second creation myth.

Whitehead, however, argues:

"In the book of Job ... (Job) ... is tearing to pieces the sophism that all is for the best in the best of possible worlds, and that the justice of God is beautifully evident in everything that happens. The essence of the book of Job is the contrast of a general principle, or dogma, and the particular circumstances to which it should apply. (...) No religion which faces facts can minimize the evil in the world, not merely the moral evil, but the pain and the suffering. The book of Job is the revolt against the facile solution, so esteemed by fortunate people, that the sufferer is the

⁸² Northcott, 1996, p. 196-197, p. 150: Northcott reacts against process theism also in the following way: "The problems for theodicy are surely greater than the problems of historic Christian theism, for the traditional Christian belief that humanity and the world are in some ways corrupted by the Fall means that we can see that natural evil and humanly originated evil were not a part of God's original good will and design of the cosmos." There need not be a conflict, however, between this view and process theism, as long as we understand that the design of the cosmos is not, and has never been, unilaterally determined by God.

evil person".⁸³

Indeed, blaming the sufferer does not solve the problem, as it is often the case that good people suffer while bad people prosper. It is also not the case that the nonhuman or physical world will be good as a result of the psychological or moral goodness of human beings: good people always die too soon!

So why did God not create a perfect world with perfect human beings?

Because creaturely freedom is not an *ad hoc* limitation upon God's omnipotence, but part of the ultimate, necessary nature of reality. And where there is freedom there is the chance of evil being done. Evil results from the failure to fulfill God's aims.⁸⁴ If God would have a monopoly of power, then He/She would necessarily be responsible for evil. Whitehead knew that this would also be so "if the theory of complete determinism (...) holds true".⁸⁵ Only if God is not considered to be omnipotent, humanity can accept that this world is not without some contingency, chaos, or evil. Considering the relative degree of autonomy of the creatures, God may not be seen as responsible for

⁸³ Whitehead, 1930, p. 38-39. The problem of evil is the crux of Whitehead's reaction against classical theism. On p. 65 he baldly states: "All simplifications of religious dogma are shipwrecked upon the rock of the problem of evil".

⁸⁴ Whitehead, 1933, p. 330-331: However, Whitehead recognises that even when God's aims are being fulfilled, this can still bring along an element of suffering or evil for the actual entities. This is so because ideals contrast with the actual world, and demand a preparedness 'to leave the past behind'. God is not morally accountable for this either.

⁸⁵ Whitehead, 1930, p. 82.

evil. The deficit of classical theodicy is expressed well by Pailin, who writes (bearing in mind that what he calls 'theodicy' refers to the 'classical theistic theodicy'):

"Theodicy *presupposes* that we know that God is responsible for things in the world being as they are, and accordingly that our problem is to show how the existence of the causes of evil is compatible with the divine nature and activity. As such the problem is fundamentally *mal posé*. Its presupposition is that God is to be held to be responsible for what is the case in the world in a way that is analogous to that by which manufacturers are held responsible for the quality of their products. But this is a view of God's creative and providential activity that is no longer rationally sustainable in view of the present state of scientific understanding of cosmic, terrestrial and biological evolutionary processes."⁸⁶

An example of evil related to evolutionary processes is used as an illustration by Whitehead for his thesis that "evil promotes its own elimination by destruction, or degradation, or by elevation".⁸⁷ He contends that a species whose members are always in pain, will either cease to exist, or lose the delicacy of perception which results in that pain, or develop a finer and a more subtle relationship among its bodily parts. Or more generally:

"The common character of all evil is that its realization in fact involves that there is some concurrent realization of a purpose towards elimination. The purpose is to secure the avoidance of evil. The fact of the instability of evil is the moral order in the world".⁸⁸

This shows that for Whitehead both **natural** and **moral evil** can be

⁸⁶ Pailin, 1994, p. 139, p. 45-46: This is also why Pailin suggests, for example, that God cannot stop cheetahs from tearing their prey to pieces; A similar view is in Page, 1996, p. XI-XII who argues that God cannot stop desertification.

⁸⁷ Whitehead, 1930, p. 83.

⁸⁸ Whitehead, 1930, p. 82-83.

counteracted by something positive which, however, does not deny that evil things are really evil. The process of evolution, for example, may then, - as remarked by Ford - in spite of its quirks and dead-ends, still be coordinated by divine persuasion.⁸⁹

While classical theism could only conceive of God's impassibility (*impassibilitas*), Whitehead writes that God is "the fellow-sufferer who understands".⁹⁰ This view has often been criticised as it seems to have given up the classical theistic assumption that God is ultimately stronger than suffering and evil. Northcott, for example, has fulminated against process theism since a "God who is totally identified with all life is a God who commits a tremendous amount of evil."⁹¹

Yet this critique may not be accurate. For Whitehead, God is neither just a sufferer with the sufferers, nor identified with life. The suffering of God is not simply a duplication of the suffering of other actual entities, but "tragic evil": God experiences the evil in the world by contrasting it with how the world could be, which allows Him/Her to provide new possibilities

⁸⁹ Ford, 1996a, p. 6-7; Whitehead's thought that the experience of discord could also open up new ways to achieve more beauty, harmony, and goodness is expressed well in Whitehead, 1933, p. 339: "In Discord there is always a frustration. But even Discord may be preferable to a feeling of slow relapse into general anaesthesia, or into tameness which is its prelude. Perfection at a low level ranks below Imperfection with higher aim."

⁹⁰ Whitehead, 1978, p. 351.

⁹¹ Northcott, 1996, p. 150.

to the world to transform it towards the ideal.⁹² This ideal can sometimes be experienced (primarily by higher organisms such as human beings) as constituting "the zest of self-forgetful transcendence" which results from the "deep feeling of an aim in the Universe".⁹³ This can also result in evil or suffering because a tension can be felt between mere preservation and the purpose to transcend oneself. However, this does not mean that God provides two different aims: every aim that is provided by God discloses an ideal that goes beyond the actual world, so that God wakes us up out of our tendency to reproduce the past.⁹⁴ The suffering that may accompany self-transcendence may hurt, but it leads neither to self-denial nor to evil having the final say, as Whitehead writes:

"The sense of worth beyond itself is immediately enjoyed as an overpowering element in the individual self-attainment. It is in this way that the immediacy of sorrow and pain is transformed into an element of triumph. This is the notion of redemption through suffering which haunts the world".⁹⁵

It is clear that Whitehead is alluding here to the suffering and resurrection of Christ. In our contrast experiences wherein we feel the discrepancy between what is and what might be we can become aware of God as (in Whitehead's words) the "factor saving

⁹² Whitehead, 1933, p. 369.

⁹³ Whitehead, 1933, p. 373 and p. 381.

⁹⁴ This is especially so for worshipping creatures, as pointed out in Whitehead, 1985, p. 239: "The power of God is the worship He inspires. (...) The worship of God is not a rule of safety - it is an adventure of the spirit, a flight after the unattainable. The death of religion comes with the repression of the high hope of adventure."

⁹⁵ Whitehead, 1978, p. 350.

the world from the self-destruction of evil".⁹⁶ This view has been summarised quite well by Burton Cooper:

"(E)vil is rescued from sheer negation insofar as God's inexhaustible envisagement of relevant possibility suggests ways of transmuting present evil into some future good. In this view, God neither originates evil, nor undoes the evil of the past, but he does seek to draw some good outcome from it: God 'uses what in the (...) world is mere wreckage'."⁹⁷

God cannot intervene to prevent, for example, a car accident, but His/Her everlasting character implies that the world will continue to be lured towards the ideal, and that what is past will not be forgotten. Also, we are **not alone**: the fact that God is "the fellow-sufferer who understands" implies that God is present where there is suffering (and - as Oomen remarks - we know from our interpersonal experience that the presence of someone else at the sick bed makes all the difference).⁹⁸

It seems better to admit that God cannot prevent evil, rather than to hold a classical theistic view where God can prevent evil, but for some reason prefers not to do so. From a soteriological point

⁹⁶ Whitehead, 1930, p. 140.

⁹⁷ Oomen, 1998b, p. 544: Reference is made to Cooper, 1974, p. 109. The internal quote is Whitehead, 1978, p. 346.

⁹⁸ Whitehead, 1978, p. 351; We find the same emphasis on the here and now in Zimmerman, 1988, p. 28: "Christ was resurrected only after he had surrendered to his incarnate, mortal status. Hence, redemption does not mean that the eternal soul flies off to an otherworldly heaven; instead, redemption means experiencing eternity here and now in incarnate form."; Oomen, 1998b, p. 557-558: Oomen also points at the importance of the presence of God and adds - perhaps in contradistinction with Whitehead's view - that it may be more appropriate to hold that we are remembered as subjects rather than in, as Whitehead says, our "objective immortality" for the creative advance of the world which is the "unfading importance of our immediate actions, which perish and yet live for evermore" (Whitehead, 1978, p. 351).

of view, Whitehead's view is unacceptable for theologians such as Polkinghorne, Van den Brom, and Moltmann (amongst others), who portray the Whiteheadian view of God as a vast receptacle or impersonal monitor into which all the individual experiences resulting from human actions are poured and where they are simply preserved.⁹⁹ However, as mentioned before, Whitehead's God does not simply preserve or remember things, but transforms them in order to be able to respond in the best possible way to the future occasions of experience. Also, our lives are preserved everlastingly in God's experience. Although this may not solve all soteriological questions, what has to be said is that Whitehead's 'minimal' view of God may be preferred to Moltmann's view that "every idea about the co-workings of created beings with God (...) presupposes a *self-restriction* on God's part" which inevitably leads to a 'maximal' view where God unilaterally decides to restrict or withdraw himself to allow room for creation (leading to the theodicean problems of classical theism).¹⁰⁰

⁹⁹ Polkinghorne, 1994, p. 65; Van den Brom, 1993, p. 168; Moltmann, 1996, p. 332.

¹⁰⁰ Moltmann, 1996, p. 332: Moltmann also conceives of an eschatological time in which "all times are simultaneous" where to "the external presence of God above" creation will be "added the inner presence of God *within*". What is left unexplained is how the simultaneity of time and the external presence of God can be understood.; A Jewish reaction against the idea of a divine self-limitation is Jonas, 1994, p. 204-207 who argues that this is not a credible concept after Auschwitz; It has to be mentioned that subjective immortality is defended by some process thinkers, such as for example in Cobb, 1972 and Bracken, 1991. Although we lack the scope to go into a discussion about subjective immortality here, I like to point out that the belief in the resurrection may be nourished by our sense of justice which hopes for justice after Auschwitz, and by the Christian hope for a personal life after death.

Intermezzo: Pansyntheism as an Alternative for the Evil Caused by the Teleological Thrust in Process Theism?

Page has reacted against the teleological thrust in some forms of process theism.¹⁰¹ From the fact that over ninety percent of all species had become extinct before *homo sapiens* appeared on the scene, she infers that - if we were to share David Pailin's assumption that "God's creative activity (...) contains an intrinsic urge towards combination in increasingly complex patterns" - we cannot but come to the conclusion that "the divine lure and creative activity were considerably less than effective."¹⁰² Also, Page cannot accept the idea that creatures are being lured onwards and upwards, since that would - in her view - entail that the process becomes more important than the individual, and lead to evil.¹⁰³

Instead, Page propounds '**pansyntheism**' (God is with everything), holding that God is actively involved by granting possibility to the world. She reacts against a theology stressing the *res gestae* and stipulates that the important question is not 'what does God do?' but 'what is the relationship between God and the world?'.¹⁰⁴ It is what a good relationship is about: noticing, paying attention, recognition of the otherness of the other, caring,

¹⁰¹ Page, 1996, p. 47-49.

¹⁰² Page, 1996, p. 103; Reference is made to Pailin, 1989, p. 140.

¹⁰³ Page, 1996, p. 47-49.

¹⁰⁴ Page, 1996, p. XVII, 54, 40: Page holds '**pansyntheism**' to be in line with what has been said of the Holy Spirit in the Christian tradition. It is only different in that she discards the view that a distant God sends the Holy Spirit.

sharing of life, thought and action.¹⁰⁵ She argues that both the freedom and the relatedness of God to the world are maintained if we conceive of God not in terms of 'making/designing', but in terms of 'making possible'. She uses the Heideggerian notion of '*Gelassenheit*' to express her faith in the continuing patience and steadfastness of God. God lets creatures be by allowing them the possibility to explore being and meaning.¹⁰⁶ God is also co-appreciating all creatures resisting entropy and death.¹⁰⁷ Page denies the existence of divine blueprints - for example for the pathway of human evolution - and argues that creatures have the freedom to respond "in better or worse ways".¹⁰⁸

However admirable the approach of Page may be, I think her option for 'pansyntheism' does not offer an alternative that is any better than process theism. On the contrary, although I agree with Page that some forms of process theism may be understood as paying too much attention to the evolutionary process and dowplaying the value of some individuals, I do **not** think we can discard the

¹⁰⁵ Page, 1996, p. 55-56.

¹⁰⁶ Page, 1996, p. 7-8, p. 16-17: *Gelassenheit* is also defined as "the letting be of possibilities" or the continuous giving room to explore what is possible, p. 39: With reference to John Llewelyn, who studied Heidegger's notion, it is also defined as: "neither quite as intrusively forward as actively to get, nor quite as reserved as passively to let". Reference is made to Llewelyn, 1991, p. 86.

¹⁰⁷ Page, 1996, p. 57, 119-120: Page contends that God is co-appreciating all creatures resisting entropy and death. We could question if this is not contradictory to her earlier made assumption that "all God's creatures are subject of God's care" (p. 57). If 'all creatures' is used here as inclusive of the non-living creation, then Page makes the contradictory statement that God is both loving and hating entropy and death.

¹⁰⁸ Page, 1996, p. 8-9.

existence of a **natural hierarchy** as easily as is suggested by Page.¹⁰⁹ We have to say that God values more those species that show more complexity and more richness of experience than others. This would justify our ethical sensitivity allowing for differential treatment, as we have presented in our proposal for a weak anthropocentrism (part two, chapter five). At the same time, panentheism can still hold that God feels compassion for creatures individually. In other words, the fact that God values some species more than others does not have to imply that individual suffering (for example connected to food chains) should therefore be meaningless to God. Moreover, we could question whether Page's alternative for the process theistic idea that suffering is the result of conflicting aims by the suggestion that it is a price that has to be paid for the gift of possibility, is any better?¹¹⁰

Page contends that "the gift of possibility says a great deal about what kind of God this is", but I wonder if this is not too open or unqualified: God grants us possibility, yes, but **to do what?**¹¹¹ In accordance with this, Page wants to do away with all talk of God as (first) cause, which raises the question if she is not rendering all activity of God in the world impossible in this way?¹¹² Even if we agree that all activity in the world may no longer be understood as the effect of the unilateral causation of the deity, this does not have to lead to denying any form of

¹⁰⁹ Page, 1996, p. 143-144.

¹¹⁰ Page, 1996, p. 38.

¹¹¹ Page, 1996, p. 18.

¹¹² Page, 1996, p. 16.

causation by the latter. The process theological notion of lure or urge to, for example, beauty, harmony, responsibility, complexity may be a better way to understand divine causation. Implicitly, this has been admitted by Page, since her remark that creatures can respond to God "in better or worse ways" betrays that she assumes that the way in which possibility is realised, is not neutral.¹¹³ Elsewhere, she makes the same assumption by speaking in an unqualified way about "divine purposes".¹¹⁴ She shares the process theological idea that God works by attraction rather than by force, but, again, does not unfold what we are or should be attracted to.¹¹⁵

Page's pansyntheism opts for the old theme of the divine concourse to be interpreted as a divine concurrence or a 'running alongside'.¹¹⁶ To be somehow in line with traditional Christian theology she argues that the "concurrence of Jesus with God is for Christians *the* demonstration of 'what God does'."¹¹⁷ Elsewhere, she states that Jesus is for Christians "the one who in life made such concurrence visible and effective, and in death showed that nothing could separate us from the love of God."¹¹⁸ Things that do not concur are relegated to oblivion or non-being.¹¹⁹ The idea of concurrence entails that God is always and

¹¹³ Page, 1996, p. 9.

¹¹⁴ Page, 1996, p. 119.

¹¹⁵ Page, 1996, p. 130.

¹¹⁶ Page, 1996, p. 59.

¹¹⁷ Page, 1996, p. 61.

¹¹⁸ Page, 1996, p. 169.

¹¹⁹ Page, 1996, p. 170-171.

already saving. Therefore creation and salvation are not two different acts of God. Salvation is not to be seen as an event happening in the far-off future, but as happening now. For God, all creatures do not matter as components or as having some place in evolutionary history, but as individuals. Page argues for 'teleology now!' and dismisses any distant teleology as it is alleged to go hand in hand with belief in a distant God.¹²⁰ In her own words:

"That sense of the value of the individual now! frees theology from all over-arching divinely-directed teleologies, including any in which non-human creation is of importance only as far as it contributed to the arrival of *homo sapiens* with its intelligence. Further, increase of complexity, from 'lower' to 'higher' creatures, ceases to be the major expression of divine teleology in evolution, although the range of possibilities which complex creatures have remains important as a measure of their capacity for response, their responsibility."¹²¹

She continues by arguing that "if human beings celebrate their top position as complex and intelligent, a cheetah might as well celebrate its top position in speed, or an elephant in strength".¹²²

Apart from the fact that Page seems to forget that the capacity to 'celebrate' may be specifically human, I contend that the fact that 'teleology' (which has to be defined as 'goal-directed behaviour resulting from a free agent') is happening now does not have to imply that there is no teleology in a long-term perspective. This may be understood in two ways.

¹²⁰ Page, 1996, p. 62-71.

¹²¹ Page, 1996, p. 72.

¹²² Page, 1996, p. 73.

Firstly, although individuals are valued individually, they may also be valued by God for their contribution to the increase in intensity and complexity of feeling. This does not mean that we have to adopt the strong anthropic principle and argue that human beings are the necessary purpose of the whole development. Neither does this mean that we have to hold, as Peacocke does, that "'natural evil' is a necessary prerequisite for the emergence of free, self-conscious beings".¹²³ Yet the capacity for a wider range and a higher quality in responsiveness may have been advanced by evolution. If we accept that we are entitled to establish ethical hierarchy by attributing differential moral significance to species and classes as we have argued in our ethical section, then I believe we may consider this to be an adequate response to God valuing species and classes differently. Yet we may not forget that the value that something may have for the further process of reality is always seen by Whitehead as a component of the way in which things value themselves:

"The function of being a means is not disjoined from the function of being an end. The sense of worth beyond itself is immediately enjoyed as an overpowering element in the individual self-attainment".¹²⁴

Secondly, process theism, unlike 'pansyntheism', does not necessarily exclude external teleology (things receiving goals

¹²³ Page, 1996, p. 98. The quote is taken from Peacocke, 1979, p. 166.

¹²⁴ Whitehead, 1978, p. 350: See also p. 27 where Whitehead writes that "the subjective aim (...) is at intensity of feeling a) in the immediate subject, and b) in the relevant future". This shows that the actual entities do not provide the data which future actual entities prehend in a neutral way. They limit the future actual entities by anticipating the future in their concrescence. This shows their role as efficient causes, which, however, is never that of sufficient causes.

from another agent or other agents), for example salvation beyond earthly history. Although what we realise on the basis of our own freedom or teleology may be important, there may be teleology beyond what we can do ourselves, as God is - in Whitehead's words - "a little oblivious as to morals", "finds purpose in the present immediacy of a kingdom not of this world", and leads the world "with a tenderness which loses nothing that can be saved".¹²⁵ Just as creation is ultimately gifted by God (only God provides the possibility for the creature to create itself), so we may argue that salvation as the destiny of nature is also gifted by God. Northcott has phrased this better than most process theologians, provided that we understand his use of the word "restoration" as a transformation, rather than as a return to the origin:

"The *telos* of the cosmos is the restoration of paradise, of the natural relationality between humans and God which the story of Adam and Eve represents as the ideal of divine-human fellowship. Broken covenants, lost blessings, human sin and injustice, and exile from the garden and the land are not the end of the story. The original peace of the first creation may have been despoiled by human rebellion but God's sure purpose is still to restore shalom, harmony, blessing and fruitfulness to his people, to all living things and to the land."¹²⁶

3.2.3. Process Theism and God's Omniscience

Three classical theistic views on the relationship between God's knowledge and time have to be discarded.

The first holds that, as God is unchanging in every respect and therefore timeless, He/She is **not aware** of the flow of the non-

¹²⁵ Whitehead, 1978, p. 343, 346.

¹²⁶ Northcott, 1996, p. 193-194.

divine reality.

The **second** is the view that God's knowledge has to be conceived as a state of **total simultaneity** (*totum simul*): all events are at once present to the divine awareness.

The **third** view is that God's knowledge precedes what happens in the world: God **foreknows** what happens.

All three views **contradict belief** in the **personal nature** of God as someone who is active in history, and someone who - according to the Biblical writers - listens to the voices of the people. Pailin rightly argues:

"If God is unchangeable and timeless in every respect, to seek divine aid is as pointless as shouting to a hero on a film screen to watch out because the baddies are behind the rock! What will happen is fixed on the film. Nothing can be done about it."¹²⁷

The second and the third classical theistic view also **contradict the asymmetry of time**: the future is not there yet, and therefore cannot be known. Quantum physics may support, as we have seen, that there is an ontological indeterminacy even at the level of the microscopic constituents of matter. This, together with our hard core common sense notion of **free will**, gives us reason to believe that the future is - to some degree - genuinely open rather than a deterministic unfolding of the past.

As we have seen already, time is neither an object in the world nor a subjective Kantian structure of the intellect. It refers to the way in which events are causally related to one another and distinguishable from one another. It is an abstraction expressing a fundamental form of relationship between events. It

¹²⁷ Pailin, 1994, p. 102.

is especially the **asymmetric** or **discontinuous** conception of time (the relationship of present events to past events is asymmetric to the relationship of present events to future events) that is important for understanding the divine temporality. While references to past events refer to what is determinate or fixed, references to future events relate to what is essentially indeterminate or open, which is expressed as follows by Capek: "Future events are neither real nor determined; conceptual analysis and all available empirical evidence both point to this conclusion."¹²⁸

The asymmetry of time is, as a metaphysical truth, true for all modes of reality. This implies, if - as Whitehead says - "God is not to be treated as an exception to all metaphysical principles, invoked to their collapse", but as "their chief exemplification", that, contrary to the classical theistic view, even for God the future is open or indeterminate, which therefore cannot be known.¹²⁹

Does this mean that God's knowledge is imperfect? Not at all, Hartshorne has pointed out that the divine **knowledge** is perfect

¹²⁸ Capek, 1986, p. 307; Pailin, 1994, p. 106-109; At first glance, it might be thought that the same idea is expressed in Moltmann, 1996, p. 287: "Remembered past is something other than expected future. If reality is realized potentiality, then potentiality must be higher ontologically than reality. If out of the future there is past, but out of past never again future, then the future must have pre-eminence among the modes of time." However, at a closer look Moltmann denies here that the future is genuinely indeterminate, as otherwise he could not grant **ontological** significance to it!

¹²⁹ Whitehead, 1978, p. 343.

since God knows the actual as actual and the possible as possible.¹³⁰ Ford, however, has argued more correctly that God only knows what is actual once it has been actualised, that is: once it belongs to the past. Since the decision-making process of the actual entities is non-objectifiable, God cannot know the present either.¹³¹

The divine knowledge is perfect as it can not be surpassed by any other knowledge. Yet it can surpass itself as it always increases in actuality.

3.2.4. Process Theism and Miracles

If we now draw our attention to miracles, we have to point out firstly that a great number of people have lost faith in miracles or special divine interventions since the Enlightenment.

Even though Newton did not exclude special divine interventions,

¹³⁰ Hartshorne, 1973, p. 136; Hartshorne & Reese, 1976, p. 225-227; Pailin, 1992, p. 19-20: Pailin remarks that this interpretation of the divine perfection may be exposed to two critiques. The first concerns the position of those who understand the divine reality in all respects as a *totum simul* eternity and therefore reject this notion of divine perfection. Pailin notices that in this case another way of conceiving of God's personal activity and merciful presence will have to be found, without appeal to divine temporality. I agree with Pailin that this seems impossible. The second form of critique holds that it is unjustifiable to conjecture God as an actual individual as it introduces illegitimate notions of relatedness to others and to Himself. The legitimate object of worship would rather be an abstract ideal whose qualities can never be incorporated in a particular existing individual. However, I agree with Pailin in holding that this way of understanding God is at odds with the concrete or realistic image of God that characterises Jewish, Christian, and Islamic traditions; Page, 1996, p. 154: Page agrees with the denial of divine foreknowledge or foreordination that is manifested in process thought as such foreknowledge would imply determinism.

¹³¹ Ford, 1996a, p. 17.

Whitehead has pointed out that God was primarily the transcendent originator of the natural order for Newton:

"The concept in Newton's mind is that of a fully articulated system requiring a definite supernatural origin with that articulation. This is the form of the cosmological argument, now generally abandoned as invalid; because our notion of causation concerns the relations of things within the actual world, and can only be illegitimately extended to a transcendent derivation."¹³²

Whitehead repeats here his earlier mentioned critique on the cosmological argument: it seems, indeed, impossible to derive a transcendent source from the immanent order of things. This had already been perceived by Hume.

Whitehead has also remarked that Newton's "*Scholium* made no provision for the evolution of matter" as "the topic lay outside its scope" and that "the result has been that the non-evolution of matter has been a tacit presupposition throughout modern thought".¹³³

If there is no evolution, the conclusion that God is not or cannot be at work in nature in radically new ways (which forms the essence of belief in miracles) seems inevitable. This is deism: although some deists may not deny that there is an invariable ongoing, sustaining activity of God, what deism denies is that there is a variable divine influence that plays a constitutive role in what happens in the world.

The view that God does not or cannot intervene in the natural

¹³² Whitehead, 1978, p. 93.

¹³³ Whitehead, 1978, p. 95.

processes has led many theologians and philosophers to turn to the realm of the human soul: God is then regarded as someone who inspires us to do the right things, or who addresses an ethical appeal to us.¹³⁴ No doubt this turn has contributed to the further justification of strong anthropocentrism which has resulted in our ecological crisis.

At first sight, Whitehead seems to be another exponent of this tradition. Whitehead gives up the classical theistic view that there are special divine interventions into the normal causal order of things, and holds that God cannot realise things unilaterally. Instead, God acts by appealing to the inner aspect of actual entities, which may form structured societies of actual entities, for example the human soul.

However, - as we have seen before - a closer look reveals that Whitehead holds that all actual entities have an inner aspect that is akin to the human soul. God is a (rather than: the) causal factor in every event, present as the "object of desire" or the "lure for feeling", without being a uniform causal factor.¹³⁵ It can no longer be held that God temporarily suspends or interrupts the normal natural order with its flow of causes and effects (with secondary causes providing sufficient explanations for the normal 'whatness' of natural events) to produce miracles. God is present as a factor playing part in the constitution of all events, without breaking into the natural order. This would not force us, however, to give up belief in **miracles**: since the **divine influence**

¹³⁴ Two great examples of this anthropocentric turn are Kant and Levinas.

¹³⁵ Whitehead, 1978, p. 344.

is variable, some events can be called special acts of God (while holding, at the same time, that God is present as a causal factor in all actual occasions).

With this in mind, the high level of uniformity displayed by some natural events does not provide ground for the belief that there are so-called iron or unchanging laws. Neither does it provide ground for the view that the natural laws are prescriptive or have been imposed by God.¹³⁶ For Whitehead, the laws of nature are merely habits: Matter can be lured by God to follow a relatively unchanging and orderly pattern.¹³⁷ But it can also be lured to novelty, and it is in cases where nature is persuaded to follow surprisingly new patterns that we can speak of miracles.¹³⁸

What is crucial in this account of miracles is that God does not

¹³⁶ Griffin, 1998c, p. 192: Griffin has commented on this as follows: "Once that idea, a hangover from the notion of laws as supernaturally imposed, is given up and we see laws of nature instead as habits, then the idea that laws fully dictate the behavior of molecules will be seen to be as groundless as the idea that human habits fully determine human behavior."; Whitehead, 1933, p. 52: Whitehead also speaks of the laws as the "outcome of the character" or the "communal customs" of things.

¹³⁷ Whitehead, 1978, p. 92: It is because the order of nature is the product of the activity of individual decisions that Whitehead can call the laws of nature statistical. Incidentally, it must be said that Whitehead's view on God's presence in the world differs fundamentally from those views which situate God's actions in the statistical margins that are left unexplained by natural law. Such a view is espoused, for example, in Brümmer, 1985, p. 93-95.

¹³⁸ While permanence of order does not have to be explained in a mechanistic philosophy (for example Newton's bodies keeping the same velocity as long as there is no interaction with other bodies), things are different for the philosophy of organism: "Only if you take *material* to be fundamental, this property of endurance is an arbitrary fact at the base of the order of nature; but if you take *organism* to be fundamental, this property is the result of evolution." (Whitehead, 1985, p. 136)

operate as breaking into the normal natural order from outside, but as a necessary, persuasive factor included in every natural process, which is also expressed as follows by Whitehead: "Thus the initial stage of the aim is rooted in the nature of God, and its completion depends on the self-causation of the subject-superject" which is also called "the autonomous master of its own concrescence".¹³⁹

3.2.5. Process Theism and a Weak Anthropocentric Ecological Ethic

And finally, while classical theism puts a lot of emphasis on the divine mind, often resulting in a strong anthropocentric ethic which glorifies the human mind (for its analogy with the divine mind) and downplays the value of nonhuman nature, process theism may support a weak anthropocentric ecological ethic, and *vice versa*. This is so for the following reasons.

Firstly, for someone who is not familiar with Whitehead's ideas, his view "that apart from the experiences of subjects there is nothing, nothing, nothing, bare nothingness" must be read as showing agreement with a fashionable post-Kantian denial of the existence of reality outside the human subject, which may be used to justify a strong anthropocentric ecological ethic that denies the intrinsic value of the nonhuman world.¹⁴⁰ Whitehead is, indeed, as aware as Kant of the role the subject plays in

¹³⁹ Whitehead, 1978, p. 244-245; Whitehead, 1933, p. 144-147, 165-167.

¹⁴⁰ Whitehead, 1978, p. 167.

experiencing reality. In fact, he radicalises Kant at this point by claiming that all there is are experiences of subjects. But unlike for Kant, for Whitehead the notion 'subject' is not reserved exclusively for the human subject, as we have seen earlier on. Whitehead's view that we are co-creators with God implies what Griffin has called **panexperientialism**. Nature is a complex hierarchy of experiencing subjects, which is a necessary condition for nature having **intrinsic value**. To have intrinsic value is to be valuable for oneself. This shows that process theism can **never** be used to **justify a strong anthropocentric ecological ethic**, where the intrinsic value of nonhuman nature is denied.

The Kantian gap between the object or 'thing-in-itself' and the subject or 'transcendental unity of apperception' is closed by Whitehead's conviction that all actual entities, both human and nonhuman, are subjects, and that all become objectified. This implies that the theoretical reason (dealing with objects) and the practical reason (dealing with subjects) are no longer juxtaposed, but interwoven, which has far-reaching implications for an ecological ethic.¹⁴¹ Indeed, Whitehead sees the categorical

¹⁴¹ Van der Veken, 1992b: Van der Veken points at another interesting difference between Kant and Whitehead. While the former sees God as the one who miraculously restores the gap between happiness and morality in an **afterlife**, Whitehead connects God to the experience of value in the **here and now**. It is clear that the Kantian God, who allows a tension between happiness and morality to persist throughout **this life** and then solves this tension as a '*deus ex machina*' in an **afterlife**, remains an exponent of classical theism, which is recognised by Van der Veken: "He is far more influenced by eighteenth century Prussian Protestantism than he may have realized, and for this reason his answers do not really transcend the two-level universe of classical theism. (...) He accepts rather uncritically a world behind the world (Nietzsche's *Hinterwelt*), a life after this life (almost literally so), and a clear-cut distinction between the

imperative as only one element within a more general intuition of value and beauty in the cosmos:

"There must be value beyond ourselves. Otherwise every thing experienced would be merely a barren detail in our own solipsist mode of existence."¹⁴²

This accords with the contention we made in the previous part that **values are discovered** in nature rather than merely in human reason (for Kant) or merely invented (for most postmodern ethicists). This implies a decentring of humanity and an imperative to cultivate our capacity to listen to nature, which leads to the recognition of its intrinsic value and a weak anthropocentric ethic.

Secondly, process theism adopts a **relational view** of reality. The support that was given by classical theism to the Greek assumption that relatedness implies imperfection has to be rejected. The view that everything is interconnected is also apparent in ecological science, where scientists are becoming more and more aware of the danger involved in a substantialist view of the world wherein the illusion that humanity - to use the words of Descartes - "requires nothing but itself in order to exist" persists.¹⁴³ Birch and Cobb argue that if we put the emphasis on internal relations, especially on the relations between living entities, we will focus more on removing all sorts of poisons from the air, water, and

phenomenal and the noumenal."

¹⁴² Whitehead, 1938, p. 140.

¹⁴³ Whitehead, 1930, p. 94; Reference is made to Descartes, 1911-1912, p. 50-51.

food, and tackle our individualist political and economic systems.¹⁴⁴

And finally, since process theism adopts a **multi-disciplinary** approach to the world, it can use scientific insights to promote ecological values. Moltmann's suggestion to translate the activity of God's Spirit in Gn 1,2b in terms of "vibrating, quivering, moving and exciting" may - as proposed by Christopher Lewis - be enriched by string theory, which suggests that the subatomic particles are in fact different vibrations of very small strings in additional dimensions.¹⁴⁵ Only by our attempts to combine ideas from a variety of different sciences can we avoid the compartmentalisation of our minds, itself responsible for our ecological crisis, and discover the ultimate nature of things, which may, or may not, reveal that - in the words of Michio Kaku - "the universe" is "comparable to a symphony".¹⁴⁶

¹⁴⁴ Birch and Cobb, 1984, p. 184-188.

¹⁴⁵ Lewis, 1999, p. 338: Reference is made to Moltmann, 1990, p. 288-289 and Kaku, 1995, p. 153-154.

¹⁴⁶ Lewis, 1999, p. 338: Reference is made to Kaku, 1995, p. 153-154.

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