CHAPTER FOUR:

A THEOLOGICALLY APPROPRIATED NATURALISTIC ONTOLOGY

4.0 Introduction

In Chapter Three, it was argued that a theological worldview, particularly one which seeks to provide a framework for our understanding of ethics, needs to provide a response to the theodicy question. In theologically appropriating descriptions of the world which in part stem from evolutionary theory, I argued that an appropriate response to theodicy can be found with the developmental aspects of John Hick's representation of Irenaeus; evil exists as a result of humanity's moral immaturity. However, I do not take this as an all-encompassing response to evil as whilst it responds the problem of moral evil, it is still susceptible to the problem of natural evil (although Hick does address natural evil, I will argue that his response is insufficient in that regard). Natural evil can be understood in this context as something which causes suffering/pain which is not the result of a moral action, for example, natural disasters. It should be noted that a strict separation between natural evil and moral evil is not always easily defined. Ambiguity may arise particularly in modern times where moral actions may have direct or indirect consequences exacerbating events which would have in previous ages been understood as natural evils. Humanity's technological developments have had at times detrimental effects on the Earth's natural workings and may have intensified various weather phenomena resulting in greater degrees of natural evil. Further ambiguities exist on the question of what constitutes a moral action or a moral evil; whether it is the intentions or consequences of an action, what degree of freedom the agent had, etc. – but addressing these questions is not of concern at this point.

In furtherance of outlining a theological position which appreciates our scientific knowledge of the world inclusive of evolutionary ethics, natural evil must be addressed in providing a response to the theodicy question. Although there have been multifarious responses to theodicy, what will be proposed here as a response to natural evil is a naturalistic or material ontology. I argue here that in light of philosophical reflections on science, and indeed theological considerations, the world can be understood as naturalistic or material; a view which may be defined as naturalism – a somewhat ambiguous term which needs further discussion. Therefore, section 4.1 will further outline my understanding of a naturalistic ontology. Distinct caveats and criticisms of a naturalistic ontology will also be considered in this section, but ultimately rejected. This section will also refer to recent developments in science to further demonstrate the coherence of a naturalistic ontology.

Theological arguments in favour of a naturalistic ontology will then be considered in section 4.2. A number of alternative possibilities will be considered, particularly in terms of models of divine action which my understanding of a naturalistic ontology precludes. Based upon weaknesses of these models, and more significantly, theological proposals in favour of precluding any mode of divine action (interventionist or non-interventionist), my understanding of a naturalistic ontology will be argued to be more theologically coherent than any model of divine action – noting that certain models of divine action may also be considered naturalistic. The problem of evil and the integrity of contingency will be presented in sections 4.2.2 and 4.2.3 respectively as theological reasons for adopting a naturalistic ontology. In section 4.3, I will then turn to the themes of kenosis, the autonomy of creation and atemporality in order to theologically appropriate a naturalistic ontology, given that it may be vulnerable to the criticism of making the divine superfluous.

Even though a naturalistic ontology can be theologically appropriated, it must also be acknowledged that this approach still may lead one to a nihilistic conception of the world.

An interpretation of inevitability may result from viewing everything in the universe including conscious thought as aspects of an unbroken causal chain of physical reactions; that all our actions/thoughts were inevitable. As I argued in the previous chapter, such inevitability/fatalism could be interpreted as nihilistic, if one accepts the premise that the significance of an inevitable world is less than an open-ended world. To avoid this conclusion, and suggest how a naturalistic ontology can be affirmed whilst also maintaining a non-nihilistic view of the world, I propose the cardinal argument of this thesis; that evolutionary ethics offers a glimmer of hope in what may be perceived as an otherwise nihilistic world. This argument will be presented in the next chapter. For now, the coherence of a naturalistic ontology with science and a particular theological approach will be presented, even if it leads to nihilism. An attempt to overcome this nihilism will be the task of the next chapter.

4.1 A Naturalistic Ontology: Overcoming its Discontents

As this chapter centres on the prospect of a theological appropriation and advocacy of a naturalistic ontology, it must be clearly articulated what is understood by this term. A naturalistic ontology, as understood here, is usually referred to as 'naturalism' of some sort; a term that is significantly ambiguous. As a starting point, a functional definition of naturalism has been provided by theologian David Ray Griffin, "naturalism is the doctrine that this causal web with its general causal principles cannot be interrupted from time to time."[486] Notwithstanding this functional definition, naturalism so construed has also been subject to a variety of further clarifying definitions. Griffin, for instance, distinguishes between a minimalist 'nonsupernaturalist naturalism' and a maximal 'sensationist, atheistic,

[486] David Ray Griffin, *Two Great Truths: A New Synthesis of Scientific Naturalism and Christian Faith*, (London: Westminster John Knox, 2004) p. 2

materialist naturalism'.[487] Willem Drees makes a distinction between 'soft, non-reductive naturalism' and 'hard reductive naturalism'[488], whilst philosopher William A. Rottschaefer distinguishes between supernaturalistic naturalism and naturalistic naturalism.[489] Indeed, each of these categories of naturalism can require further clarifications pertaining to whether such naturalism is methodological, epistemological, or ontological, and can further be interpreted as atheistic or theistic. Given that the term 'naturalism' thus clearly seems to have much plasticity, it needs to be clearly articulated what is meant when it is stated in this context. This section will thus outline what is meant here by a naturalistic ontology, and address various potential criticisms in order to further clarify my position.

A naturalistic ontology adopted in this work is an assumed ontology that echoes an approach established among the Greeks, particularly Aristotle, who endeavoured to understand the world by examining the 'why' of things, or in other words, causes.[490] However, it is not an ontological naturalism as understood by scientists Karl Giberson and Mariano Artigas, as a position which denies the existence of anything which cannot be studied through the scientific method.[491] On the contrary, as will be discussed below, my version of a naturalistic ontology actually assumes the existence of something beyond the universe. A naturalistic ontology as understood here takes it that anything within the realm of the physical world can in principle be understood naturally, pertinently, the evolution of life and morality. The Aristotelian quest to understand the operations of the physical world by examining the relationship between cause and effect has been influential in the fact that it

[487] Ibid., p. 26
[488] Willem B. Drees, *Religion, Science and Naturalism*, (Cambridge: Cambridge University Press, 1996) p. 10
[489] William A. Rottschaefer, 'How To Make Naturalism Safe for Supernaturalism: An Evaluation of Willem Drees' Supernaturalistic Naturalism', *Zygon: Journal of Religion and Science*, 36.3 (2001) pp. 407-453
[490] Aristotle, *Physics*, Richard McKeon ed., *The Basic Works of Aristotle*, p. 240
[491] Karl Giberson and Mariano Artigas, *Oracles of Science: Celebrity Scientists Versus God and Religion*, (Oxford: Oxford University Press, 2007) p. 234

is a presupposition for modern scientific thinking; as Martin Heidegger wrote, "Without Aristotle's physics, there would have been no Galileo."[492]

Modern science, it is contested, has followed the assumptions of an unbroken chain of causality which can in principle, explain every phenomena in the universe. Although there are 'gaps' in our current understanding of this causal process, naturalism as understood here assumes that any non-natural or supernatural events are precluded. The continuing successes of science imply, as Ernan McMullin explains, an ontology.[493] McMullin acknowledges that the ontology implied by science, which I understand as a naturalistic ontology, is incomplete and tentative.[494] There are a number of reasons for this; we may view as a cautionary tale the proclamation of Lord Kelvin circa 1900 that there is nothing new left to discover in physics, shortly before Einstein's revolutionary discovery of the photoelectric effect and his theory of special relativity. We should be aware of the provisional nature of any scientific worldview and not be too quick to assert our confidence in any one scientific picture, such as a particular naturalistic ontology. Moreover, following the sentiment of Karl Popper, it could be argued that a naturalist may never be able to definitively prove that all of the world's phenomena are explicable naturalistically, as the criterion for the demarcation of truth may lie not with verification but with falsifiability.[495] Popper himself explicitly warned against turning the convention of naturalism into a dogma.[496]

The naturalistic ontology adopted here infers from the successes of science that any phenomena can be explained naturally even if we cannot yet provide a natural explanation. The origin of life is an interesting example, given that heretofore, chemists and biologists

[492] Martin Heidegger, *The Principle of Reason*, trans. Reginald Lilly, (Indianapolis: Indiana University Press, 1991) p. 63 [Originally published 1957]
[493] Ernan McMullin, 'A Case for Scientific Realism', Jarrett Leplin ed., *Scientific Realism*, (California: University of California Press, 1984) p. 9
[494] Ibid., p. 9
[495] Karl Popper, *The Logic of Scientific Discovery*, (New York: Routledge, 1959) p. 18
[496] Ibid., pp. 52-53

have been unable to definitively explain beyond mere postulation how the first DNA or RNA molecules formed. However, on the naturalistic view, it is inferred that this formation occurred naturally, and not supernaturally as a result of divine action. This is inferred because almost all observed physical and chemical events seem to be open to natural explanation (even if one has not yet been found), and thus, there is no reason to assume that the significant event of the origin of life is any different. Yet it could be argued along with Hume that such inferences are naïve. Hume critiqued the assumptions we make regarding predictions of the future based on observations of the past by pointing out that there is no *a priori* reason why certain processes will have the same effect if repeated; the eating of bread may nourish a person today, but that does not 'prove' that it will nourish a person tomorrow.[497] Similarly, just because all observed events seem to have natural explanations, does not mean that all events will always have natural explanations. One could consequently, for these and other reasons, reiterate John Locke's suggestion that a definitive scientific understanding of the world, and thus an exhaustive scientific naturalism, is strictly speaking beyond our grasp.[498]

There are also further considerations such as the debate over whether what we perceive through science is an accurate representation of reality. Ackowledging this question, it could be argued somewhat tentatively that whilst we can be aware of the limitations of our grasp on knowledge, science can provide a good approximation of reality.[499] Being aware of these limitations and caveats does not require that the scientific or naturalistic enterprise be abandoned; rather, it merely suggests that we proceed with caution and in a somewhat Socratic fashion, agree to perennially demand that such assumptions hold up to scientific and philosophical scrutiny. Bertrand Russell for example, suggested that

[497] David Hume, *An Enquiry Concerning Human Understanding*, Peter Millican ed., (Oxford: Oxford University Press, 2007) pp. 24-25 [Originally published 1748]
[498] John Locke, *An Essay Concerning Human Understanding*, Roger Woolhouse ed., (London: Penguin, 1997) p. 307 [Originally published 1690] p. 450
[499] For an example of such discussion, see Ernan McMullin, 'A Case for Scientific Realism'

whilst an absolute truth about reality may be ultimately unattainable, science can provide a technical truth useful for making predictions – it gives an approximation of reality.[500] Though even then, the ambiguity of the notion of a 'technical' or 'approximate' truth raises further issues, as McMullin suggests, it raises the question of 'how approximate'.[501]

Whilst being mindful of these caveats pertaining to adopting a naturalistic worldview, it is argued here that a naturalistic ontology understood as precluding supernaturalism is an appropriate position based on the coherence and successes of science. The universe is assumed to obey laws which are in the still incomplete process of being fully understood by the sciences in respective disciplines. The universe is, on this understanding of naturalism, fully explicable in terms of these laws even if we are not yet fully aware of them. All that exists in the universe can be understood in terms of their physical constituent atoms, sub-atomic particles, or further constituents that are as of yet unknown; quantum fields, superstrings and the like. In this respect, I also follow Drees when he asserts that naturalism can be understood as a close synonym of 'hard naturalism', 'physicalism', 'materialism', and 'physical monism'; all that exists in the world, again including moral thought, is made up of one substance, matter.[502] This form of naturalism can be distinguished from that of Griffin, who finds such a view severely limited in scope and opposed to a theological view, as we shall see in section 4.2.[503] Such a naturalistic outlook of the world is not unique to modern science; it echoes the thought of the Greek atomists such as Leucippus and Democritus (though not Aristotle, who rejected the physical theories of the atomists and Plato).[504] In modern times, it can be stated that science's continuing predictive and cumulative success provides a strong basis for asserting (or re-asserting) that

[500] Bertrand Russell, *Religion and Science*, (Oxford: Oxford University Press, 1997) p. 15 [Originally published 1935]
[501] Ernan McMullin, 'A Case for Scientific Realism', pp. 35-36
[502] Willem B. Drees, *Religion, Science and Naturalism*, p. 11
[503] David Ray Griffin, *Two Great Truths*, p. 2
[504] G.E.R. Llyod, *Early Greek Science: From Thales to Aristotle*, (London: Chatto and Windus, 1970) p. 102

the contingency of the universe is steadfast, even if this position may be vulnerable to the critiques of naïvety *a la* Hume, Popper and others.

Although the naturalistic ontology advanced here uses the coherence and success of science as an argument for its validity, it also must be acknowledged that it is ultimately a metaphysical position. Drees, who advocates a naturalistic approach, thus asserts that naturalism necessarily goes beyond the details provided by science in assuming a wider view of reality.[505] Scientific naturalism is scientific in the sense that it is based upon, or perhaps inspired by science. Yet it is not scientific in the sense that it cannot be demonstrably proven through experimentation. One cannot escape the confines of the universe in order to conduct an experiment on its nature; all of the knowledge on which naturalism is predicated stems from inside the world. Therefore, it must be considered ultimately a philosophical position, indeed one which may seem difficult for a theologian to adopt. Therefore, five distinct objections to a naturalistic viewpoint will now be addressed; irreducibility, mind-body causation, self-reference, matter, and atheism. Of course, this is not an exhaustive review of potential critiques of naturalism, but rather an attempt to further clarify the naturalistic approach adopted here and to address issues which are pertinent in this context.

Irreducibility

As stated above, a distinct aspect of the naturalistic ontology espoused in this chapter, assumes that everything in the universe can be ultimately realised in terms of reduction to material components. This assumption lies at the heart of the scientific method; the idea that there is no external quality at work. However, on certain issues which we experience as intangible, such as love, music, poetry, or pertinently, freedom and morality, a degree of

[505] Willem B. Drees, *Religion, Science and Naturalism*, p. 11

scepticism may arise with regard to reductionism. In espousing a naturalistic view, Drees outlines six premises which characterise his naturalistic position, three of which concern reduction; *constitutive reductionism* (that the world is in a unity in that all entities are made of the same constituents), *physics postulate* (that physics offers us the best available description of the constituents of the natural world) and *conceptual and explanatory non-reductionism* (that the description and explanation of phenomena may require concepts which do not belong in the vocabulary of fundamental physics).[506] On this view, a Shakespearian sonnet or Beethoven symphony can ultimately be realised in the form of ink and paper, or vibrating strings and sound waves, which in turn can be ultimately understood in terms of atoms (as with constitutive reductionism and physics postulate). However, in terms of conceptual and explanatory non-reductionism, it is acknowledged that such entities require explanations that are beyond fundamental physics – explanation through literary theory, musicology, or more commonly, in terms of subjective human experience and emotion, even if ultimately, such events are atomic interactions. Daniel Dennett, who advocates a similar approach to reductionism, describes as preposterous the notion that one could critically compare Keats and Shelly from a molecular perspective; the higher level sciences are not at risk of being abandoned in favour of lower-level physics, even if at bottom, anything can be understood in terms of lower-level physics.[507]

Despite these stipulations, reductionism in its various forms – such as conceptual and explanatory non-reductionism (discussed above) or nonreductive physicalism (which will be discussed in the next chapter) for example – has still been viewed with suspicion by philosophers/theologians such as Griffin.[508] Griffin worries that a reductionist understanding of the human mind in particular makes subjective experiences of conscious thought

[506] Willem B. Drees, *Religion, Science and Naturalism*, p. 16
[507] Daniel C. Dennett, *Darwin's Dangerous Idea*, p. 81
[508] For discussion on 'nonreductive physicalism', see Nancey Murphy and George Ellis, *On The Moral Nature of the Universe*, p. 32

superfluous.[509] A resultant implication of reductionism is for Griffin and others, the potential elimination of the notion of free will, a prerequisite for morality (this criticism of reductionism is akin to that which was held against evolutionary explanations of morality in section 2.3). However, it will be argued specifically in the next chapter, that such material reduction does not preclude the subjective experience of freedom. In addition, such reservations about material reduction again underestimate the significance of the concept of emergence, which was also discussed in further detail in section 2.3. Therefore, it is argued here that naturalism, whilst indeed being reductionist, does not deny the realities of subjective experiences, such as music, poetry or freedom – certain properties can be emergent and thus inexplicable directly in terms of the fundamental sciences, though again ultimately there are no forces at work other than those of fundamental physics.

Mind-Body Causation

As stated, I roughly equate a naturalistic view of the world with a material view of the world. With regard to the natural sciences, such a view is often assumed; as Bertrand Russell states, a material view is almost synonymous with science.[510] Notwithstanding, on certain issues such as the human mind/consciousness, a material understanding is often more contentious. Griffin, for example, presents the concept of conscious thought as indicative of a fatal problem for a material outlook, "Materialists still face the problem of how a brain consisting of nonexperiencing neurons could produce conscious experience."[511] Similar scepticism regarding a material understanding of consciousness has also been articulated by scientists and philosophers such as Paul Davies, Bernard d'Espagnat and more recently

[509] David Ray Griffin, *Religion and Scientific Naturalism*: *Overcoming the Conflicts*, (New York: State University of New York Press, 2000) pp. 76-81
[510] Bertrand Russell, 'Materialism, Past and Present', Robert E. Egner and Lester E. Denonn eds., *The Basic Writings of Bertrand Russell*, p. 211[Originally published 1925]
[511] David Ray Griffin, *Two Great Truths*, p. 23

Thomas Nagel.[512] To substantiate his critique of a material view of mind, Griffin points to the problem of mind-body causation. He feels that materialism cannot explain how mental experience can have a causal effect on the physical body.

Griffin also discusses the implications that naturalism/materialism may bring for the issue of freedom (also alluded to above). Griffin expresses his belief that based on a physicalist understanding of science, free will must be illusory. In a world consisting of mindless physical particles, there could be no place for free will.[513] The similar issue of sentience has also been cited as a key problem for a materialist vision, and as a result, theologians such as Richard Swinburne have suggested that only God's actions can solve the mind-body problem.[514] For Griffin to overcome these issues (the mind-body causal problem, and the issue of free will), he leans on Whitehead's non-materialist 'panexperimentialism' which he roughly summarises as the doctrine that all things including particles of matter have some level of experience.[515] Of course this is not conscious experience, but rather an understanding that atoms for instance, may be conceived as relative to our minds – such a view has also been expressed by physicists such as d'Espagnat.[516]

These objections to a material worldview are important as they present a challenge to the version of naturalism adopted here; it must be expressed how the naturalistic ontology can coherently account for the existence of mind/consciousness. On a terminological note, I use the term 'mind' both for brevity and for the purposes of comparing two views, as strictly speaking, when I use the term 'mind' I use it as a synonym for mental phenomena as opposed to an entity in itself (which is how Griffin et al. presumably understand it given their opposition to reductionist views of the mind). Here, I argue that the model of

[512] Paul Davies, *The Mind of God*, p. 232; also, Bernard d'Espagnat, *Reality and the Physicist*, (Cambridge: Cambridge University Press, 1989) p. 212; also, Thomas Nagel, *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly False*, (Oxford: Oxford University Press, 2012)
[513] David Ray Griffin, *Two Great Truths*, p. 24
[514] Richard Swinburne, *The Evolution of the Soul*, (Oxford: Clarendon , 1986) pp. 198-199
[515] David Ray Griffin, *Two Great Truths*, p. 78
[516] Bernard d'Espagnat, *On Physics and Philosophy*, (New Jersey: Princeton University Press, 2006) p. 268

consciousness outlined by Daniel Dennett satisfies a naturalistic/material view of the mind. Dennett, in opposition to Griffin, actually uses the 'mind-body causality problem', what Schopenhauer called the 'world knot', as the fatal flaw of Cartesian dualism,[517] a critique also echoed by the philosopher of mind Jaegwon Kim.[518]

Dennett is consequently in favour of a material view of the mind; that the mind is comprised of matter which is subject to the laws of the natural sciences.[519] For Dennett, the mind is the brain. In order to explain how mindless entities, atoms, etc. can produce the apparent phenomenon of conscious thought, Dennett puts forth a model of consciousness he labels the 'multiple drafts model'.[520] He suggests that in the brain, a multitude of processes interpreting sensory perception operate in parallel. There is no one centre, no locus of consciousness which could be called the 'I' (which Descartes postulated to exist in the pineal gland of the brain). The efficacy of these multiple drafts gives the impression of a single unit, because they have evolved to work well in tandem. Therefore, the intricate integration and assimilation of mindless physical properties can account for the experience of mind or conscious thought, and is thus consistent with a material/naturalistic ontology.

Given our understanding of evolution, there is also no reason other than general intuition why we should expect any aspects of our being, including our minds, to be different from the properties dealt with by physics and chemistry – though as noted above, this is not to say that mental life is not different in some senses; it clearly has more complex forms of organisation and thus cannot be fully explained without recourse to higher-level systems of analysis. The bio-mechanical processes of genetic replication and the processes of natural selection have led to the evolution of the human mind in the same way in which it has led to the evolution of any other feature of the biosphere; through a long cumulative

[517] Daniel C. Dennett, *Consciousness Explained*, p. 35
[518] Jaegwon Kim, *The Philosophy of Mind*, 2nd ed., (Oxford: Oxford University Press, 2006) p. 44
[519] Ibid., p. 33
[520] Ibid., p. 111

process leading to greater degrees of complexity.[521] Similarly, as discussed in Chapter Two, this process also resulted in the evolution of human morality. By incorporating Dennett's views on the material realisation of consciousness, an exhaustively naturalistic ontology can be defended, one which pertinently in this context, includes moral thought and behaviour (through sociobiological theory discussed in Chapter Two).

Self-Reference

A further potential critique of a naturalistic worldview is the issue of self-reference. As stated above, the naturalistic position as adopted here is based upon the successes of a scientific appreciation of the natural world and physical processes. An issue arises with this naturalistic position when it is considered that our knowledge of the physical processes stem from the physical processes themselves. If our experience of physical processes is understood as another physical process, then our attempt to understand physics is in some respects, physics trying to understand itself. Therefore, our understanding of the physical processes cannot be separated from the physical processes under investigation, perhaps highlighting an intrinsic subjectivity in scientific investigations. Bertrand Russell makes this point when discussing materialism:

> [T]he data of physics are sensations, which are infected with the subjectivity of the observer. Physics seeks to discover material occurrences not dependent upon the physiological and psychical peculiarities of the observer. But its facts are only discovered by means of observers, and therefore only afford data for physics in so far as means exist of eliminating the observer's contribution to the phenomenon.[522]

Such objections to materialism (in this context, taken as a close synonym of naturalism) are for Russell insurmountable when it comes to developing a metaphysical system (though he

[521] Daniel C. Dennett, *Darwin's Dangerous Idea*, p. 371
[522] Bertrand Russell, 'Materialism, Past and Present', p. 219

notes materialism's practical use in deciphering scientific laws), "(materialism) cannot be regarded as definitely true without a wholly unwarranted dogmatism."[523]

Notwithstanding this inherent subjectivity, such limitations regarding an espousal of a naturalistic ontology do not fully discount the strong case that can be made for naturalism, namely the coherence and successes of science in predicting future events. Indeed, the scepticism regarding the subjectivity of our knowledge is not limited to science; the scepticism of Descartes, for example, outlined how there may be no compelling argument to assume that any of our perceptions accurately reflect reality.[524] This problem may be particularly acute for a naturalistic/material ontology, given that it views our understanding of physical events as physical events themselves. Similar caveats are discussed by Drees, who also notes the impossibility of an independent justification of naturalism because naturalism is all-encompassing; there is no place outside of naturalism from which naturalism can be evaluated.[525] Although such caveats can be duly acknowledged, it is argued here, following from Drees, that we cannot do better than use the best available knowledge and thus build upon stable insights from science in espousing naturalism.[526] A naturalistic ontology, like any position among others, is not perfect, though a case is made here for its coherence and its adoption from a theological perspective.

Matter

A further problematic aspect of the adoption of a naturalistic ontology, particularly as it is understood as a close synonym of a material ontology, is the division among the scientific community on the nature of matter itself. Physicists Paul Davies and John Gribbin, for example, argue in their work *The Matter Myth*, that the advent of quantum physics early in

[523] Ibid., p. 220 [parenthesis mine]
[524] René Descartes, *Treatise on Light*, Stephen Gaukroger trans. and ed., *The World and Other Writings*, (Cambridge: Cambridge University Press, 2004) p. 3 [Originally published 1633]
[525] Willem B. Drees, *Religion, Science and Naturalism*, p. 16
[526] Ibid., p. 12

the twentieth century has revealed matter to be far less substantive than we might believe.[527] Modern physics, Davies and Gribbin argue, portrays matter as more elusive than the materialist model; it behaves in "nonlinear" and "seemingly miraculous ways". Elsewhere, Davies explains how various features cardinal to physics, such as atoms and subatomic particles, "inhabit a shadowy world of half-existence."[528] Thus, Davies and Gribbin title the first chapter of their work 'The Death of Materialism'.[529] This may be a distinct caveat of adopting a naturalistic framework. Indeed, advocates of materialism must acknowledge that there is much about matter we do not yet fully understand. Perhaps then, a serious caution must be adopted; is it wise to adopt an ontology based on an as of yet incomplete knowledge of the very basic components of science? In this regard, Davies and Gribbin advise such caution. They note that, for example, until the nineteenth century, physicists assumed the existence of ether which filled space, something which the paradigm shift following Einstein's elucidation of relativity proved false.[530] Therefore, to reiterate a theme also raised earlier, we should not assert too much confidence in what we think we know.

In a similar regard, there are numerous examples of areas in science in which consensus on issues consequential for our general view of reality has not been reached; a full appreciation of the nature of quantum physics, for example. Moreover, there may be theories which form part of the consensus view at present which will be superseded in the future, similar to the concept of ether, or substantially revised, such as understandings of gravity and atoms. Despite the provisional nature of science, the wider picture assumed by the naturalistic ontology adopted here (a closed causal system), will be assumed not to change. For example, physicists such as Stephen Hawking and Leonard Mlodinow have recently defended an amalgamation of various theories known as M-theory, which they feel gives us

[527] Paul Davies and John Gribbin, *The Matter Myth: Beyond Chaos and Complexity*, (London: Penguin, 1991) p. 8
[528] Paul Davies, *The Mind of God*, p. 85
[529] Ibid., p. 8
[530] Paul Davies and John Gribbin, *The Matter Myth*, p. 19

a complete picture of the physical nature of reality.[531] An analysis of the merits of such a view is beyond the scope of this thesis and indeed, perhaps beyond the gift of the theologian or philosopher (despite the fact that it may indeed have implications for them). The programme of Hawking and Mlodinow rests on the same assumption of a naturalistic ontology; that the world is a closed causal system. It may be that M-theory will be superseded in the future, but if the naturalistic ontology holds, then the new theory would still adhere to the principles of naturalism; a closed causal web. Moreover, even if an element of genuine randomness exists, within quantum physics for instance, it would be argued that the world's causal system is still not susceptible to outside interaction. Despite many scientific revolutions and paradigms, this naturalistic ontology has hardly changed since the ancient Greeks, and still provides, it is argued, the most appropriate outlook on the world in light of the predictive successes of science, even if a degree of caution is duly acknowledged on the issue of matter itself.

Atheism

As stated above, the naturalistic ontology assumed in this chapter can be roughly equated to materialism or physicalism. Naturalism so supposed has in turn been equated by scholars such as Griffin to what he terms sensationist, atheistic, materialistic naturalism. This brand of naturalism, he suggests, is incompatible with religious belief.[532] Contrary to this assertion, the naturalistic/material ontology assumed here is not atheistic, it merely assumes that no supernatural or spiritual realm interacts with this world. In fact, in following this naturalistic ontology to its logical conclusion, we encounter what Drees terms 'limit questions'.[533] Questions arise at the boundaries of science such as why there is something rather than

[531] Stephen Hawking and Leonard Mlodinow, *The Grand Design: New Answers to the Ultimate Questions of Life*, (London: Bantam, 2010) pp. 116-119
[532] David Ray Griffin, *Two Great Truths*, p. 26
[533] Willem B. Drees, *Religion, Science and Naturalism*, p. 18

nothing, or why the universe is lawful, as Einstein stated, the fact that the world is comprehensible is a miracle.[534] In this regard, it is understood here that a naturalistic ontology cannot just leave room for, but actually be consistent with a transcendent God; though I do not seek to advance that argument here. On this issue, the theological aspect of my version of a naturalistic ontology becomes implicit; with respect to limit questions, I hold a stronger view than the agnostic stance of other 'religious naturalists' such as philosopher Jerome A. Stone, whose approach is essentially atheistic, though he acknowledges the value in using religious language.[535]

A naturalistic ontology may indeed preclude particular theological concepts such as God's providential action. The preclusion of such action for Griffin, does not do the Christian tradition justice.[536] Yet, it is argued here, that a naturalistic ontology with the notion of a transcendent realm implied by the limits of the ontology aligns more with theism than atheism, despite the fact that such theism may not be representative of the understandings of God portrayed in particular religious traditions – indeed, there is no *a priori* reason to assume that it should; religious texts such as the Bible are understood in most Christian denominations to rely on myth and reflect the level of scientific knowledge of the period, which precedes modern science by millennia. However, it will also be argued in section 4.3 that the transcendent God viewed as consistent with a naturalistic ontology can also be seen as consistent with a particular interpretation of God as portrayed in the Christian narrative.

To summate, the naturalistic ontology espoused in this chapter is one which is inspired by natural philosophy and modern science, though this approach is taken with due caution. Five caveats were addressed to demonstrate that this approach is not naïvely

[534] Taken from the German phrase, *In diesem Sinne ist die Welt unserer Sinneserlebnissen begreifbar, und dass sie es ist, ist ein Wunder*, Albert Einstein, 'Physik und Realitat', *Journal of the Franklin Institute*, 221.3 (1936) p. 315
[535] Jerome A. Stone, *Religious Naturalism Today: The Rebirth of a Forgotten Alternative*, (Albany: State University of New York Press, 2008) pp. 225-226
[536] David Ray Griffin, *Two Great Truths*, p. 26

adopted, but rather the result of careful and critical reflection on science and philosophy. The key feature of the naturalistic ontology as pertinent in this theological thesis is that the world is a closed causal system which is not vulnerable to interaction from the outside, namely, from a divine realm. Whilst it is acknowledged that there are 'gaps' in the scientific picture of this causal system, it is assumed that these gaps are at least in principle explicable through scientific analysis of causation. Moreover, the naturalistic ontology advocated here is not atheistic, but rather, implicitly theistic (or at least, deistic), given that we ultimately encounter 'limit questions'.

The Coherence of a Naturalistic Ontology with Modern Science

Recent developments in science give extra weight to the continuing understanding of all aspects of the world, including conscious thought, as physical. The naturalistic ontology of the ancient Greek atomists can still be maintained in light of modern science. To illustrate, three brief examples can be given. Firstly, the advent of recent developments in brain-computer interfaces may be interpreted as human thoughts being 'read' by computer programmes.[537] Of course, such developments cannot be considered 'proof' that human thoughts are 'readable' and thus physical. Hume's criticism of inference again becomes apparent; there is nothing to necessarily preclude an immaterial feature causing the physical reactions of the brain which can be subsequently 'read'. Notwithstanding this point of caution, the ability to 'read' human thought, however elementary such technology is, would be consistent with a material understanding of consciousness, and thus coherent with a naturalistic ontology. A second development pertains to the advances made in constructing an artificially conscious system. In his explication of his material view of consciousness, Dennett suggested that if such a model of consciousness was to hold true, then an artificially

[537] See Dennis J. McFarland and Jonathan R. Wolpaw, 'Brain-Computer Interfaces for Communication and Control', *Communications of the ACM*, 54.5 (2011); also, Luis Fernando Nicolas-Alonso and Jaime Gomez-Gil, 'Brain Computer Interfaces, a Review', *Sensors* 12.2 (2012)

conscious machine was a legitimate possibility given that there is no nonmaterial element of consciousness.[538] Although a machine with the same degree of consciousness as a human has not yet been realised, projects such as the 'Blue-Brain Project', a supercomputer attempting to mimic a mammalian brain, are making progress towards that goal.[539] A third example is the first synthetically created living cell by a team led by American scientist Craig J. Venter in 2010.[540] Though not specific to the issue of consciousness/mind, the creation of synthetic life provides further substance to the argument that life is material and has no non-natural component thus again being coherent with a naturalistic/material ontology.[541]

Consequently, based on the overall coherence of the naturalistic picture of the world as portrayed through the natural sciences, perhaps taken as an updated version of Aristotelian causality or Democritean atomism, it is suggested that this ontology be adopted. Though distinctive criticisms of the naturalistic ontology can be acknowledged, several of the more prominent of which are present above, no such criticisms seem to pose a strong enough challenge to discount such a view. In fact, recent developments in science and technology, whilst not presenting definitive proofs, seem to add further significant weight to the coherence of a naturalistic/material worldview. In addition to the scientific coherence of a naturalistic ontology, it is also contested here that a naturalistic ontology is more theologically coherent.

[538] Daniel C. Dennett, *Consciousness Explained*, p. 214
[539] Henry Markram, 'The Human Brain Project', *Scientific American*, 306.6 (2012) pp. 50-55
[540] Daniel G. Gibson et al., 'Creation of a Bacterial Cell Controlled by a Chemically Synthesized Genome', *Science*, 329.5987 (2010) pp. 52-56
[541] Acknowledging of course the 'non-material' elements involved in its creation, namely, the conscious intentions of the scientists involved, though this does not take away from the point that the life itself is comprised of purely natural elements.

4.2 The Coherence of A Naturalistic Ontology and Theology

As asserted above, the naturalistic ontology assumed in this chapter is steadfast to the point where the causal processes are never violated by a spiritual, transcendent or divine realm.[542] On a first reading of this statement, it may be understood as conflicting with any theological appreciation of the world as it seems to preclude any divine involvement in the world, through miracles or other forms of divine action. Therefore, a naturalistic ontology such as that adopted here, has often been seen as antithetical to a religious worldview; the association of naturalistic materialism with science and of supernaturalism with religion has formed the basis for much apparent conflict between science and religion, as Griffin notes, "Given this twofold equation (the association of naturalism with science and supernaturalism with religion), the 'scientific worldview' necessarily conflicts, in various ways, with the worldview presupposed by religious believers."[543] Although Griffin himself believes that this conflict can be overcome, depending on further clarifications on what is meant by 'naturalism' and 'supernaturalism', he and others would still perhaps argue that the naturalistic ontology adopted here would indeed conflict with a religious outlook, given Griffin's critiques of similar perspectives.[544]

In order to illustrate how a naturalistic ontology can be coherent with a theological view, prominent alternative models of divine action will be considered in section 4.2.1, but ultimately rejected. Aside from particular weaknesses in these models themselves, a theological argument against any model of divine interaction will then be outlined based on the theological problem of evil and the integrity of creation, discussed in sections 4.2.2 and

[542] A note on language here; in explicating this view, it might be unintentionally applying a negative stigma either to divine action or the prospect of no divine action. One could say that the naturalistic ontology *denies* divine action, which may read as a negative appropriation of the naturalistic ontology, as the term 'deny' may read as having negative connotations. Conversely, one could say that the integrity of the natural ontology is such that it cannot be broken, which may imply a negative appropriation of divine action in that it 'breaks the integrity' of the natural world. I am bound by language in this regard, and whilst I have chosen to explicate my view in the latter way, my intentions are to present a balanced view, though one which ultimately rests on a naturalistic ontology.
[543] David Ray Griffin, *Religion and Scientific Naturalism*, p. xv
[544] For example, David Ray Griffin, 'A Richer or Poorer Naturalism? A Critique of Willem Drees' *Religion, Science and Naturalism*', *Zygon: Journal of Religion and Science*, 32.4 (1997)

4.2.3 respectively. I consciously use the term 'interaction' as opposed to the term 'intervention' given that certain models of divine interaction (which will be discussed below) are specifically presented in certain contexts as non-interventionist. I use the term 'interaction' in a broader sense to encompass both interventionist and non-interventionist models of divine action, all of which are rejected in my approach.

4.2.1 Alternative Possibilities

Although I argue that a naturalistic ontology precludes intermittent divine involvement in the world, what is perhaps more common is to persist in postulating some form of direct divine interaction with the world – again, note that divine interaction can be differentiated from divine intervention; certain models of divine interaction (e.g. through indeterminacy or whole system interaction) could be considered naturalistic given that they do not conflict with the laws of nature, though these views are also precluded on my understanding of a naturalistic ontology. To illustrate, four examples will be briefly considered; miracles, indeterminacy, mental interaction, and whole-system causation. This is not an exhaustive review of models of divine action. A complete critical review of the body of work presented by the various theorists in question, and the nuances of their proposals, is beyond the scope of this work.[545] My brief illustration of such models serves only to further articulate my own position by way of contrast with other prominent positions, some of which could be considered naturalistic. It will also be stated why other prominent views are ultimately repudiated here, thereby strengthening my own position.

[545] A good summary however, can be found in the volume edited by Robert John Russell, Nancey Murphy and Arthur Peacocke; *Chaos and Complexity: Scientific Perspectives on Divine Action*, 2nd ed., (Vatican City: Vatican Observatory Press, 2000)

Miracles

A traditional if ambiguous model for understanding divine interaction with the world is the concept of miracles. Indeed, miracles could also be used as a blanket term which encompasses all models of divine interaction, including those to be discussed below. For present purposes, miracles will be assumed to be an expression of God's omnipotence by causing an occurrence which is inconsistent with the natural causal process, or as John Polkinghorne states, is "... radically unnatural in terms of prior expectation."[546] Such an understanding of miracles is akin to the oft cited definition put forth by Hume; that miracles are a transgression of the laws of nature.[547]

It is assumed here that within the framework of a naturalistic ontology, the natural laws are never transgressed. Again, the predictive success and continuing developments of science seem to cohere with the perspective that the laws of nature are exceptionless. Theologically too, there are substantial reasons to espouse a naturalistic ontology and discredit miracles. For example, Aquinas discussed the idea that having created the laws of nature, God cannot act against himself, "God the author of all natures does nothing against nature."[548] If one were to allow for the opposite, a perplexity arises; if God created the world as lawful, why would God then interrupt God's own laws? Would this not undermine God's creation? Theologian Wolfhart Pannenberg elaborates on this point by arguing that the idea of a miracle construed as Hume's idea of something which violates the laws of nature is a self-defeating concept.[549] He articulates the premise as follows:

> The logic of the concept of natural law requires that there be no exceptions – otherwise the pretended law in question would turn out not to be truly a law of

[546] John Polkinghorne, 'The Credibility of the Miraculous', *Zygon: Journal of Religion and Science*, 37.3 (2002) p. 751
[547] David Hume, *An Enquiry Concerning Human Understanding*, p. 127
[548] Thomas Aquinas, quoted in Wolfhart Pannenberg, 'The Concept of Miracle', *Zygon: Journal of Religion and Science*, 37.3 (2002) p. 760
[549] Ibid., p. 759

> nature. The concept of miracle as a violation of natural law subverts the very concept of law and in effect exposes the futility of the assertion of miracles.[550]

The notion of a law implies universality, otherwise it would not be a law but rather a tendency or habit; the notion of a law may be undermined if such a law can be readily violated. Furthermore, Pannenberg explains that the concept of a miracle as a violation of the laws of nature is a relatively recent understanding, arising only subsequent to the medieval period.[551] If the laws are understood to have come from God as Creator, the notion of a miracle may violate Gods' self, as in the sentiment of Aquinas. Thus, it may be more logically coherent to assume that the laws are not broken as with the naturalistic ontology. This theme will also resurface in section 4.2.3.

However, an argument could be presented to the contrary. It may be stated that there is no *a priori* reason to insist that an intervention in the physical laws constitutes an undermining of such laws. Keith Ward, for example, finds arguments based on the inalienability of physical laws ill-founded. He suggests that rather than interpret the laws of nature as universal and absolute, they could be interpreted as useful general principles.[552] Ward finds the arguments of theologians such as Rudolf Bultmann, who sought to demythologise the Christian tradition,[553] "extremely odd" if God is taken as a personal entity.[554] For Ward, the personal character of God offers justification for some occurrences to transcend general law-like principles; human experience is rarely clear-cut, but often exists in a blur of grey areas. Why should God and his laws be any different? In contrast to Ward's suggestion that physical laws may be better conceived of as general principles, it is understood here that given the coherence of a naturalistic ontology with scientific and philosophical principles of causality, a stronger case can be made in favour of unalterable

[550] Ibid., p. 759
[551] Ibid., p. 760
[552] Keith Ward, 'Believing in Miracles', *Zygon: Journal of Religion and Science*, 37.3 (2002) p. 743
[553] Rudolf Bultmann, *Jesus Christ and Mythology*, (London: SCM, 1966) p. 15 [Originally published 1958]
[554] Keith Ward, 'Believing in Miracles', p. 742

laws. Moreover, as Bultmann points out, the understandings of the world presented in the New Testament for example, are pre-scientific and therefore we should be aware that we cannot expect the biblical texts to live up to the same degree of scientific scrutiny we employ in our current worldview; in short, there is no reason to assume that the supernatural events of the New Testament transpired in any historical or literal way.[555]

Indeterminacy

The general understanding of miracles as discussed above is significantly problematic, both in terms of the theological argument in favour of the integrity of God's creation evident in Aquinas, and also from the scientific/philosophical image of causality. However, arguments in favour of the divine realm directly and fruitfully engaging with the physical world have been put forth which do not consider such action as contravening the physical laws. One such approach has been to interpret the apparent indeterminacy in physical laws evident through quantum physics or chaos theory as evidence that the world is not purely mechanistic as a material ontology would perhaps assume. John Polkinghorne, for example, illustrates that a fully causal and mechanistic world makes God redundant, limiting his action to the initial construction of the cosmic machine.[556] One chief reason for Polkinghorne's rejection of such a view is the twentieth century discoveries of quantum theory and chaos theory, "The widespread intrinsic unpredictabilities that these theories entail show that the physical world is not simply mechanical...."[557] Quantum theory, for Polkinghorne, illustrates a degree of plasticity regarding the causal nexus of the world. He states that physical reality as understood from quantum theory is an exquisitely sensitive

[555] Rudolf Bultmann, *Jesus Christ and Mythology*, p. 15
[556] John Polkinghorne, *Faith, Science and Understanding*, (New Haven: Yale University Press, 2000) p. 109
[557] Ibid., p. 110

system, which signals that "ontologically much of the physical world is open and integrated in character."[558]

Following from this, the openness of the causal nexus might allow for God to act in the world without violating the natural laws, given that the natural laws are not closed systems. Quantum uncertainty may allow God to act in a way that is non-interventionist, as Gods' actions would not be contradicting laws, but rather working through the open laws, "within the grain of nature, rather than interventionally against it."[559] If quantum theory illustrates an indeterminate system, then God's acting through such indeterminacy would not be *contra naturam*, and thus the integrity of the physical laws would be maintained, making prevalent the difference between divine interaction and divine intervention, a point stressed by Robert John Russell.[560] Therefore, envisioning divine action through indeterminacy would not be divine action in the traditional understanding of a miracle defined by Hume as a transgression of nature. Such a view has proved appealing, and has thus been adopted in varying degrees and guises, and with various nuances by theologians and scientists such as Russell[561], Nancey Murphy and George Ellis[562], Karl Giberson and Francis Collins[563], amongst others.

Contrary to prospect of direct divine action at the level of quantum uncertainty, however it may be expressed, the naturalistic ontology adopted here maintains that there is no direct expression of the divine in the natural world. The rationale for discounting divine action at the quantum level can be taken as twofold, though there may be further problems. Firstly, it is contested here that such a view appeals to a 'God of the gaps' mentality and

[558] John Polkinghorne, 'The Metaphysics of Divine Action', Robert John Russell, Nancey Murphy and Arthur Peacocke eds., *Chaos and Complexity*, p. 153
[559] John Polkinghorne, *Exploring Reality: The Intertwining of Science and Religion*, (New Haven: Yale University Press, 2005) p. 36
[560] Robert John Russell, 'Five Key Topics on the Frontier of Theology and Science Today', *Dialog: A Journal of Theology*, 46.3 (2007) p. 202
[561] Robert John Russell, *Cosmology: From Alpha to Omega*, p. 151
[562] Nancey Murphy and George Ellis, *On The Moral Nature of the Universe*, p. 215
[563] Karl W. Giberson and Francis S. Collins, *The Language of Science and Faith: Straight Answers to Genuine Questions*, (Illinois: IVP Books, 2011) p. 119

may only be understood from a particular interpretation of science and quantum theory. Though the nature of the physical world as explained through quantum physics or chaos theory does indeed appear less mechanistic than our image of the macro-world, physicists such as Hawking are cautious in asserting that matters are actually resolved.[564] In other words, quantum physics still represents 'gaps' in a scientific ontology which may be explained in the future, through something like M-theory or another as of yet unknown mathematical formulation. This point is also raised by Drees in his critique of Polkinghorne and others' promotion of quantum interaction (however, Drees does acknowledge that the quantum 'gaps' are quite different from earlier 'gaps' in scientific knowledge – the question of humanity's origin, for instance).[565] Consequently, it is argued here that it is less coherent to postulate divine interactions at the quantum level then to persist with a naturalistic ontology which precludes any divine interaction with the natural world. The second aspect to my rejection of divine interaction in the apparent indeterminacy in the physical laws pertains to the problem of natural evil to be discussed in the section 4.2.2.

Mental Causation

An alternative model of viewing divine interaction with the world rests on an analogy between mental and physical causation. One particular proponent of this view is Philip Clayton, who acknowledges that in light of modern science, the apparent rigour of the world's causal nexus seems to exclude God.[566] Clayton proposes a nuanced and perhaps dialectical view of the mind which is a prerequisite for his model of divine action. He does not propose a complete dualism in which the mind is fundamentally different from matter; he opts for a more emergent approach, similar to that explored in the previous two

[564] Stephen Hawking and Leonard Mlodinow, *The Grand Design*, p. 181
[565] Willem B. Drees, 'Gaps for God?', Robert John Russell, Nancey Murphy and Arthur Peacocke eds., *Chaos and Complexity*, pp. 228-233
[566] Philip Clayton, 'The Value of the Panentheistic Analogy: A Response to Willem Drees', *Zygon: Journal of Religion and Science*, 35.3 (2000) p. 700

chapters.[567] A distinctive issue which Clayton contends is that the emergence of the mind or consciousness "suggests a level of reality that breaks the bonds with naturalism."[568] This clearly differs from the naturalistic/material view of mind discussed in section 4.1. Interestingly, Clayton is very much aware that his position is dialectical, treading perhaps with difficulty between two opposing positions (materialism and dualism), drawing an idiom from Homer, "Between Scylla and Charybdis we set our sails."[569]

Clayton articulates his position then, as envisioning human thought as a natural process though one which is not determined by the physical laws, and is thus, open to "higher types of causality."[570] If the mind is not purely physical, as in the material view, then perhaps the causality of the mind is more open-ended. Such a higher type of causality would be, as Clayton suggests, divine influence.[571] Having asserted his approach to the mental realm and his understanding that such an approach allows for divine influence on human thought, he proposes a 'panentheistic analogy' which he feels best represents how God's relationship to the world should be construed:

> The body is to mind as the body/mind combination – that is human persons – is to the divine. The world is in some sense analogous to the body of God; God is analogous to the mind which indwells the body, though God is also more that the natural world taken as a whole... the power of this analogy lies in the fact that mental causation, as every human agent knows it, is more than physical causation and yet still a part of the natural world.[572]

Clayton's proposal regarding divine influence at the level of human thought, however, could be considered significantly problematic. For example, his understanding of 'higher types' of causation is deeply ambiguous and as he himself asserts, is beyond the

[567] Ibid., p. 703
[568] Ibid., p. 703
[569] Philip Clayton, *Mind and Emergence: From Quantum to Consciousness*, (Oxford: Oxford University Press, 2004) p. 129
[570] Ibid., p. 189
[571] Ibid., p. 189
[572] Philip Clayton, 'Panentheism in Metaphysical and Scientific Perspective', Philip Clayton and Arthur Peacocke eds., *In Whom We Live and Move and Have Our Being*, (Cambridge: William B. Eerdmans, 2004) p. 83

remit of unequivocal language.[573] Ambiguity was considered not to be a substantial weakness in arguments such as Tillich's notion of depth in the previous chapter. However, there is a difference in Clayton's views here as such ambiguity is potentially explicable by scientific methods given that he is discussing a causal influence in the natural world. As mentioned in the previous section, technologies pertaining to artificial consciousness and brain-computer interfaces would seem to give weight to the notion that the mind is in principle explicable in terms of physics. Thus, the ambiguities in his explication of his view of the mind are more problematic than the notion of depth discussed in the previous chapter.

In addition, if God interacts with minds in the way Clayton proposes, then it may be thought that God's actions are extraordinarily local when considering the vastness of cosmic space (though this might lead to speculation on extraterrestrials and whether God may have interacted with them). Furthermore, though Clayton acknowledges disanalogies, theologians such as Arthur Peacocke have criticised Clayton's model for not drawing clear enough distinctions between God and the world.[574] The most significant issue taken with Clayton's panentheistic analogy in this context, however, is again the problem of evil to be discussed in the next section. Overall, the coherence of the material/naturalistic ontology inclusive of a material image of human thought seems a more viable option than Clayton's proposal regarding a 'higher level' causal realm.

Whole System Causation

Arthur Peacocke is considered to have played a significant role in the development of what has been referred to as 'top-down causation', 'downward causation', 'whole-part constraint' or the term I have used, 'whole-system causation' – noting that these terms may have

[573] Ibid., p. 82
[574] Arthur Peacocke, *Paths from Science Towards God* p. 58

idiosyncrasies.[575] Peacocke's proposal of God's interaction with the world is akin to that of Polkinghorne and Clayton insofar as he suggests a model of God's interaction with the world which does not contravene the physical lawfulness of the universe as explicated through physics. However, his model for divine interaction differs from those who appeal to quantum indeterminacy or chaos theory, in that it is not the unpredictabilities in these theories where God acts. His model also differs from Clayton's mind/body analogy, as he feels there needs to be more of an ontological difference between God and creation – though he does acknowledge some heuristic value in a mind/body analogy.[576] Peacocke articulates his position on divine action as follows:

> If God interacts with the "world" at a supervenient level of totality, then God, by affecting the state of the world-as-a-whole, could, on the model of whole-part constraint relationships in complex systems, be envisaged as able to exercise constraints upon events in the myriad sub-levels of existence that constitute that "world" without abrogating the laws and regularities that specifically pertain to them – and this without "intervening" within the unpredictabilities we have noted. *Particular* events might occur in the world and be what they are because God intends them to be so, without at any point any contravention of the laws of physics, biology, psychology, sociology, or whatever is the pertinent science for the level of description in question.[577]

In Peacocke's model, God acts externally on the closed system of the world. Therefore, Peacocke's model may have merit, in that it can be considered more consonant with the natural sciences than quantum interactions (given the potential for as of yet unknown mathematical formulations to close the 'gaps' in unpredictability) or mental causation (given the successes of brain-computer interfaces and artificial intelligence projects cited above as indicative of the coherence of a material ontology). As such, Peacocke's model could be considered consistent with the naturalistic ontology I espouse, in

[575] See Nancey Murphy, 'Arthur Peacocke's Naturalistic Christian Faith For the Twenty-First Century: A Brief Introduction', *Zygon: Journal of Religion and Science*, 41.1 (2008) p. 69
[576] Arthur Peacocke, 'God's Interaction with the World', Robert John Russell, Nancey Murphy and Arthur Peacocke eds., *Chaos and Complexity*, p. 285
[577] Ibid., p. 283

that within the system itself, all events are causal/natural. What distinguishes my own position from Peacocke's, which could be considered naturalistic, is his additional consideration that causal events may be the result of an external force, namely, God's acting on the whole system. In this context, I reject Peacocke's additional consideration of whole-system causation, not because it conflicts with an understanding of an approach to science, but rather for more theological reasons, namely, the problem of evil.

4.2.2 Natural Evil

It was asserted in the previous chapter that an appropriate response to moral evil in light of evolutionary theory and particularly evolutionary ethics was to incorporate aspects of Hick's representation of Irenaeus with regard to ongoing moral development (though as noted, Hick's approach is eschatological and continues after death, whereas what I take from him is just the notion of moral development). This response need not stand in opposition against other responses to moral evil, such as a free-will defence, though the developmental connotations of an ongoing moral development seems to coalesce well with evolutionary theory. However, as I will argue below, Hick's developmental view cannot provide an adequate response to the problem of natural evil. On this point, I contest that a naturalistic ontology is the most appropriate response to natural evil. Theologically, the problem of natural evil provides support for the coherence of a naturalistic ontology over and against any model of divine interaction such as those presented above. Drees also highlights this point as he articulates, "If God acts in the world, and especially if God acts in response to the needs of individuals, why is there so much evil and suffering in the world?"[578] If God were to interact with the world, through quantum indeterminacy, chaos, mental causation, whole-system causation, or any other way, the problem of evil becomes acute. Therefore, a

[578] Willem B. Drees, *Religion, Science and Naturalism*, p. 93

case can be made that a naturalistic ontology in which God does not interact with the world is more theologically coherent than any model of divine interaction, as the problem of evil is not raised as acutely.

Of course, there are alternative views, some of which need not be asserted in strict opposition to a naturalistic ontology. For example, contemporary discussions on the problem of evil formulated against the backdrop of evolutionary theory have been put forth by theologians such as Christopher Southgate. Southgate's theodicy is nuanced and multifaceted. One particular aspect he outlines is what he terms in shorthand 'the only way argument'; "I hold to the (unprovable) assumption that an evolving creation was the only way in which God could give rise to the sort of beauty, diversity, sentience, and sophistication of creatures that the biosphere now contains."[579] His argument is reminiscent of Leibniz and his 'best of all possible worlds' approach, mentioned briefly in section 1.3.[580] However, Southgate also supplements this view with a particularly Christian approach; he envisages God as a 'co-sufferer', sharing some of the burden of creation's suffering.[581] Interestingly and pertinent to the current discussion, this approach is also how Peacocke responds to the theodicy problem whilst maintaining the idea that God interacts through whole-system causation.[582] Southgate also leans on the Cross of Christ as "the epitome of... divine compassion, the moment of God's taking ultimate responsibility for the pain of creation, and – with the resurrection – to inaugurate the transformation of creation."[583] In this sense, Southgate's view is similar to that of Holmes Rolston's Christian interpretation of evolution as a sacrificial tragedy, also mentioned in section 1.6.2.[584]

[579] Christopher Southgate, *The Groaning of Creation*, p. 16
[580] Gottfried Leibniz, *Discourse on Metaphysics*, pp. 262-263
[581] Christopher Southgate, *The Groaning of Creation*, p. 16
[582] Arthur Peacocke, *Paths from Science Towards God*, p. 142
[583] Christopher Southgate, *The Groaning of Creation*, p. 16
[584] Holmes Rolston III, 'Caring for Nature', pp. 292-293

There are two key reasons however, why particular aspects of Southgate's theodicy are rejected in favour of my understanding of a naturalistic ontology – although Southgate's approach could be understood as naturalistic, my own position is different primarily given his views on teleology, which is the first reason I find his theodicy insufficient (though he also alludes to divine interaction, which also differs from my understanding of a naturalistic ontology). As discussed in the previous chapter, an *a priori* teleology is rejected in my approach. In contrast, Southgate presents his understanding of evolution as teleological by suggesting a number of potential ways in which teleological evolution may be manifest, for example Conway-Morris' theory of convergence (discussed in the previous chapter) and Robert John Russell's perspective that God may act at the quantum level influencing genetic mutations and thus guiding the course of evolution.[585] Such teleology, as Southgate acknowledges, raises again the theodicy question. In Southgate's perspective, however, merging the notions of the 'only way' argument and divine co-suffering provides an appropriate response to this particular element of theodicy. The pain and suffering of the evolutionary process is "the necessary price of the realisation of values through evolution, and the price is worth it."[586]

Setting aside the scientific arguments against such a teleological interpretation of evolution, a popular objection to such teleology based on theodicy is expressed by Fyodor Dostoevsky in his novel *The Brothers Karamazov*. Dostoevsky's character Ivan, contrary to Southgate's suggestion, suggests that any plan of the world which involves such suffering as apparent in this world is unrewarding, "And if the sufferings of children go to swell the sum of sufferings which was necessary to pay for truth, then I protest that the truth is not worth such a price... too high a price is asked for harmony."[587] Southgate acknowledges this

[585] Christopher Southgate, *The Groaning of Creation*, p. 16
[586] Ibid., p. 12
[587] Fyodor Dostoevsky, *The Brothers Karamazov*, trans. Constance Garnett, (New York: Lowell, 2009) p. 308 [Originally published 1880]

objection and states that "This is evolutionary theodicy at its sharpest."[588] Nevertheless, he feels his response to theodicy is adequate.

It is also Dostoevsky's theodicy challenge that leads to my suggestion, in the previous chapter and above, that Hick's Irenaean theodicy is inadequate in respect of natural evil. Hick's Irenaean understanding of natural evil can be reconciled with his understanding of moral development by the suggestion that the world "ought to be, as an environment for beings who are in the process of becoming perfected."[589] In Hick's understanding, a world devoid of pain and suffering would not allow for a full moral development, "... the presence of pleasure and the absence of pain cannot be the supreme and overriding end for which the world exists. Rather, this world must be a place of soul making."[590] For Hick, the presence of natural evil is a means to an end (soul-making) – and significantly, for him, such an end could not be realised without it. Southgate similarly, sees whatever natural evil that occurs as a means, and in his view the only means possible to an end, namely, the "beauty, diversity, sentience, and sophistication of creatures" now existent.

In riposte to Southgate's position, it is contested here that a teleological approach such as the one Southgate considers is too vulnerable to Dostoevsky's theodicy challenge, which provides adequate reason for discounting it in favour of a predominantly non-teleological appreciation of evolution such as presented in the previous chapter, and a naturalistic ontology as discussed in this chapter. In some respects, one could persist as Southgate does, in suggesting that the 'only way argument' is a sufficient response; my rejection of it is not based on genuine incoherence in his theodicy but rather, comes down to the (somewhat sensitive, perhaps even personal) question of how much suffering can be tolerated in a planned world. Notwithstanding, I also relied on the chance/necessity picture

[588] Christopher Southgate, *The Groaning of Creation*, p. 14
[589] John Hick, *Evil and the God of Love*, p. 258
[590] Ibid., p. 259

of evolution to reject *a priori* teleology in the previous chapter, which may give my approach greater weight though in a different context.

The second reason for my judgement on the inadequacy of Southgate's response to theodicy is that its Christian focus is too narrow in the context of a pluralistic world. This point was also acknowledged by Neil Messer in the previous chapter as it concerned Barth's depiction of the 'knowability' of goodness in light of Christ. Messer holds a view similar to Southgate with regard to responding to theodicy within the framework of Christian salvation – though he specifically indicates how he differs from Southgate in certain respects, such as Southgate's eschatology.[591] However, Messer does appreciate that a Christ-centred theodicy may be difficult to affirm in an interreligious setting. Messer seeks to rectify this problem by affirming the universality for God's saving work through Christ, which may be a promising approach.[592] Nevertheless, I find it more favourable to persist with a more open and less specific conception of a naturalistic ontology, rather than one as Christ-centred as with Messer or Southgate.

Consequently, the particularly acute manifestation of the problem of evil raised by a teleological understanding of evolution such as Southgate's, and the specifically Christian aspects of his response to the problem, give significant weight to the argument that his theodicy is less favourable than the one presented in this chapter. The naturalistic ontology as understood here presents two distinct points which serve as aspects to a response to theodicy. Firstly, as discussed above, there is no specific divine action in the world, which subverts the question of why God does not act to prevent suffering. Secondly, as elaborated upon in more detail in the previous chapter, there is no broad scheme of teleology existent in the universe until the onset of human thought, which is sufficiently distinct from the divine

[591] For a fuller discussion, see Neil Messer, 'Natural Evil After Darwin', Michael Northcott and R.J. Berry eds., *Theology After Darwin*, pp. 139-154
[592] Neil Messer, *Selfish Genes and Christian Ethics*, pp. 211-124

realm that responsibility for evil cannot be inferred upon God; without teleology, evil cannot be seen as an element of a divine plan.

Ultimately, it is contended here that from the perspective of a moral framework, it is highly difficult to persist with the understanding that a distinct causal force in the world can be associated with the divine, or that the universe adheres to a distinctive teleology, however pliable that teleology is. The challenges presented to causally active or teleological understandings of God's relationship with the world, by those such as Dostoevsky, are substantial enough to warrant a view more closely aligned with a naturalistic ontology. Others have presented similar criticisms of a God who maintains a direct causal influence in the world, such as the British theologian David Jenkins. Jenkins finds it "morally intolerable" to consider God as an additional and occasional causal force given the immensity of suffering experienced in the world. The twentieth century Jewish philosopher Hans Jonas similarly, in reflecting particularly on Auschwitz, adamantly opposes how an omnipotent and omnibeneficent God could allow such suffering to occur; thus, there is a need to re-evaluate or re-imagine a conception of God which could be reconcilable with such atrocities.[593] Interestingly, Jonas' perspective as a philosopher of biology also supports the view presented here; that there is no teleological dimension in the basic process of evolution; it is more favourable to envisage God as having relinquished his power – a theme to be explored in section 4.3.[594] Therefore, it is contested here that a naturalistic ontology, which precludes both divine action and an initial teleology, can be more theologically coherent than a causally active God or a teleological world, as the problem of evil becomes too acute in the latter cases.

[593] Hans Jonas, *Mortality and Morality: A Search for God after Auschwitz*, Lawrence Vogal ed., (Illinois: Northwestern University Press, 1996) p. 133 [Originally published 1984]
[594] Ibid., p. 190

4.2.3 The Integrity of Contingency

A further argument which illustrates the theological coherence of a naturalistic ontology is the issue of the integrity of contingency. It could be argued that it is in fact the inalienability of the physical laws which provide a deeper sense of meaning when we approach the 'limit questions' of science, mentioned in section 4.1. If the physical laws were more amenable, then perhaps their significance in terms of being indicative of depth would be mitigated. Miracles are not then seen in various individual instances of divine action; in fact, miracles so construed may undermine an appreciation of the holistic structure of the universe and its laws. Interestingly, it is the structure of the laws of the universe that form the basis of the various incarnations of the anthropic principle or cosmological argument for Gods' existence, though these are not arguments I wish to advance here.[595] It is the overall integrity or universality of physical laws that may beg questions of why the universe is the way it is, reiterating Einstein's assertion that the comprehensibility of the universe is a miracle – though not a miracle as construed as a transgression of the laws of nature. Pannenberg offers a similar reading as he states, "... the order of nature itself by natural law is one of the greatest miracles, in view of the basic contingency of events and of their sequence."[596] This is not to advance the 'first cause' argument and suggest that God initially created the universe by 'fine tuning' the physical laws, but merely to suggest that the orderliness of the universe is indicative of meaning or depth, to again use Tillich's phrase – a depth that does lie outside of the scope of science at least as currently conceived; it may be impossible for science to explain science itself.

In viewing the contingency of the natural laws in this way (a holistic picture of the physical processes as indicative of meaning) one inevitably faces the question which has been touched on at various points in this chapter and the last; whether the contingency of the

[595] For a summary, see John D. Barrow and Frank J. Tipler, *The Anthropic Cosmological Principle*, (Oxford: Oxford University Press, 1986)
[596] Wolfhart Pannenberg, 'The Concept of Miracle', p. 761

physical laws implies teleology. McMullin interestingly points out that the contingency of the universe has been used both as an argument in favour of and against teleology. For example, in cosmology, the contingency or chance of the events allowing the big bang to occur and a universe such as this one to form seem strikingly improbable as to imply intention. However, in the case of evolutionary biology, the contingency or chance of the process seems to exclude purpose and imply relative randomness, at least at the level of genetic mutations.[597] Some have argued that the chances of the universe and life forming are so narrow that this implies a creator, for example, William Lane Craig.[598] Others however, have taken these immense chance events to be indicative that there is no teleology in nature, for example, Stephen Jay Gould; if the universe were to start again, we would most likely never arise.[599]

Consequently, the contingency of physical events can be interpreted in such opposing ways that they do not necessarily contribute to an argument on teleology. However, it is suggested that the overall structure or contingency of the universe is indicative of depth or meaning. The theological problem of evil discussed above then gives credence to the view that a naturalistic ontology is fully contingent (has no divine interaction) and is non-teleological. To reiterate the main points of this section then, it is argued that the more prominent approach to viewing God's relationship with the world has been to persist in some form of direct divine interaction. Several of the more prominent of these views were considered. Based on inconsistencies in these views, or more significantly, based on the theological problem of evil and the integrity of the contingency of the universe, it was argued that a non-teleological naturalistic ontology with no divine interaction is more theologically palatable than any alternative model of divine interaction. The question then

[597] Ernan McMullin, 'Cosmic Purpose and the Contingency of Human Evolution', *Zygon: Journal of Religion and Science*, 48.2 (2013) pp. 357-358 [Originally published 1998]
[598] William Lane Craig, 'In Defence of Rational Theism', J.P. Moreland and Kai Nielsen eds., *Does God Exist? The Debate Between Theists and Atheists*, (New York: Prometheus, 1993) p. 143
[599] Stephen Jay Gould, *A Wonderful Life*, p. 51

becomes, as McMullin states, how the contingent processes of the natural world can be consonant with the purposes of a Creative agent.[600]

4.3 A Theological Appropriation of a Naturalistic Ontology

Hitherto in this chapter, it has been contested that a naturalistic ontology can be a coherent system based on recent discourse in science and philosophy, with respect to the philosophy of consciousness and modern technological advances in brain-computer interfaces and synthetic life. Moreover, it has been contested that a significant argument can be made for a naturalistic ontology given that it is less vulnerable to the theodicy problem than visions of a teleological world or a world open to direct divine interaction. Such a naturalistic ontology also, as it pertains to the focus of this thesis, easily subsumes the evolutionary account of ethics, given that it requires no necessary reference to a spiritual or divine realm. Such a naturalistic/material ontology is thus, congruent with modern science and the theological problem of evil. However, such a vision of a naturalistic/material world, as noted in section 4.1, will be immediately looked upon unfavourably by many theologians. A naturalistic ontology may cause significant tension with a theological worldview as it may leave God redundant and shape a deism or even atheism. This implication of naturalism is what has spurred theologians such as Griffin to assert its incompatibility with Christianity.[601] In excluding divine action in the physical world, Griffin feels that a naturalistic ontology such as the one advocated here denies cardinal presuppositions of the Christian faith.

Drees notes this point as he explains that a naturalism which excludes divine action may threaten to make our ideas about God superfluous.[602] As Alasdair MacIntyre states, it is

[600] Ernan McMullin, 'Cosmic Purpose and the Contingency of Human Evolution', p. 348
[601] David Ray Griffin, *Two Great Truths*, pp. 74-75
[602] Willem B. Drees, *Religion, Science and Naturalism*, p. 106

as if theists are giving atheists less and less to not believe in.[603] Griffin consequently criticises versions of religious naturalism, such as that of Drees, on the basis that they are minimalist with respect to religion.[604] Whilst Griffin's criticism of Drees is not considered substantive here, given that Drees provides a view of the role of religion in his version of naturalism[605], Griffin's point does need to be addressed; how can a naturalistic ontology which excludes divine action have a theological dimension? The absence of a theological dimension has also led theologian Charley Hardwick to criticise almost all forms of religious naturalism – 'religious naturalism' being more specific than naturalism, as an absence of theological appropriation poses no difficulty for atheistic naturalism. He states that representative thinkers such as Michael Hogue, Loyal Rue and others, do not develop their religious naturalisms within biblical or theological traditions, and therefore, fail to fully appreciate theological themes such as 'sin' or 'fault'.[606] Whilst I do not specifically engage with sin or fault here (though they have played a role in the development, or at least the contextualising of my approach, as discussed in Chapter One), I will rely on three other theological themes, kenosis, autonomy, and atemporality, to illustrate how a naturalistic ontology can be theologically appropriated.

Kenosis

The term 'kenosis', taken from the Greek *κένωσις* for 'emptiness', is used in this context to refer to the theological theme of 'divine self-emptying' present in Christian and Jewish thought. The theme of kenosis is particularly prevalent in relation to Christian incarnational theology, in God humbly emptying God's self in becoming human. The theme of humility is

[603] Alisdair MacIntyre, 'The debate about God: Victorian Relevance and Contemporary Irrelevance', Alasdiar MacIntyre and Paul Ricoeur eds., *The Religious Significance of Atheism* (New York: Columbia University Press, 1969) p. 24
[604] David Ray Griffin, 'A Richer or Poorer Naturalism?', p. 595
[605] Willem B. Drees, *Religion, Science and Naturalism*, pp. 24-36
[606] Charley D. Hardwick, 'Review: The Promise of Religious Naturalism, by Michael S. Hogue', *Zygon: Journal of Religion and Science*, 48.4 (2013) p. 1016

clearly discernable in the Christian narrative; God did not become a great king, warrior or political leader. God was not god-like on earth, and in this sense, the incarnate God of Christian theology was strikingly different from the earthly gods of previous mythologies. The Christian God incarnate was portrayed as a humble carpenter. In his incarnation, God "... emptied himself, taking the form of a slave and being born in human likeness. And being found in human form, he humbled himself" (Philippians 2:7-8). The theme of Jesus' humility reoccurs at various stages in the New Testament, perhaps most saliently in the washing of the disciples' feet (John 13.1-20). This deeply symbolic act of humility may be interpreted as mirroring the humility of God becoming human, in a sense the relinquishment of divine power.

This theme is raised here given that it can also be seen as a way of theologically appropriating the relationship between God and creation. The concept of envisioning creation as an act of kenosis has been considered by a number of contemporary scholars, as explored in a volume edited by John Polkinghorne in 2001, *The Work of Love: Creation as Kenosis*. The Christian understanding of kenosis, it is argued here, provides a substantive theological understanding of God's relationship with creation that is congruent with the naturalistic ontology presented thus far. Interestingly, the theologian Jürgen Moltmann points out that the theme of kenosis differentiates the Christian understanding of God from previous understandings of God which he suggests stems predominantly from Aristotelian metaphysics:

> The attributes of deity related to the world (omnipotence, omnipresence, omniscience, immortality, impassibility, and immutability) derive from Aristotle's general metaphysics. They have little to do with God's attributes according to the history of God to which the Bible testifies.[607]

[607] Jürgen Moltmann, 'God's Kenosis in the Creation and Consummation of the World', John Polkinhghorne ed., *The Work of Love: Creation as Kenosis*, (Cambridge: William B. Eerdmans, 2001) pp. 139-140

There arises thus a dichotomy between the humility/powerlessness of the God of the Christian narrative portrayed through the humble carpenter, and the omnipotence etc. of the God of classical philosophy. In this sense, the frictions that arise between a naturalistic ontology and a theological view are only based on one tradition of God, namely, the God of Aristotelian attributes. The interpretation of a humble God in the Christian narrative is more amenable to the absence of assertions of omnipotence through miracles or divine action as in the view of a naturalistic ontology.

In addition, the act of kenosis, the voluntary self-limitation of God, can be interpreted as an act of love, and paradoxically, an act of power. God relinquishes power in an act of letting creation be, granting it the gift of freedom and autonomy. Moltmann encapsulates this understanding as follows:

> From the creation... God's self-humiliation and self-emptying deepen and unfold. Why? Because the creation proceeds from God's love, and this love respects the particular existence of all things, and the freedom of the human beings who have been created. A love that gives the beloved space, allows them time... freedom is the power of lovers who can withdraw in order to allow the beloved to grow and to come. Consequently, it is not just self-giving that belongs to creative love; it is self-limitation too; not only affection, but respect for the unique nature of the others as well. If we apply this perception to the Creator's relation to those he has created, what follows is a restriction of God's omnipotence, omnipresence and omniscience for the sake of conceding room to live to those he has created.[608]

From this perspective, rather than envisaging a naturalistic ontology as 'excluding' or 'prohibiting' divine action, a naturalistic ontology can be understood as a manifestation of a gift of freedom. For Moltmann, it is this act of self-limitation that is paradoxically, a sign of power.[609] A theological worldview such as that argued for in this thesis, which promotes a naturalistic ontology in which God does not act, thus finds credence in the theme of kenosis. Such a naturalistic view can be seen as coherent with a theological conception of God, as

[608] Ibid., p. 147
[609] Ibid., p. 148

well as, crucially, the contingency and self-sufficiency of the causal web made known through the natural sciences.

Kenosis can therefore be understood as an element of a theological appropriation of a naturalistic ontology which does not provision for any direct divine interaction in the world. In this way, the theme of kenosis also makes a contribution to addressing the problem of evil; God does not act to prevent suffering as God does not act in the world. Polkinghorne also acknowledges this important facet of the kenotic view:

> Such an understanding is also basic to theodicy's disclaimer that God does not will the act of a murderer or the destructive force of an earthquake, but allows both to happen in a world in which divine power is deliberately self-limited to allow causal space for creatures. This qualification of omnipotence is the most widely recognised and accepted aspect of divine kenosis.[610]

However, Polkinghorne still persists with his understanding of Gods' ability to act directly in the physical world, even if in his understanding God's action is not an intervention *per se*, as it does not involve a contradiction of the physical laws.[611] Similarly, other scholars who subscribe to various modes of divine action discussed above see serious merit in the kenotic view, for example, Barbour, Peacocke, Ward, Ellis, and others.[612]

This is where my own position diverges. The integrity and absoluteness of the causal nexus is cardinal for the naturalistic ontology espoused here; no form of direct divine action is seen. If divine action were allowed, even on a subtle scale, the problem of evil would be insurmountable. Even a loosely teleological view of the world is highly vulnerable to Dostoevsky's articulation of the problem of evil. Consequently, the naturalistic ontology adopted here is non-teleological, up to the point of human consciousness. This naturalistic ontology however, can be understood theologically in terms of kenosis – a loving act of

[610] John Polkinghorne, 'Kenotic Creation and Divine Action', John Polkinghorne ed., *The Work of Love*, p. 102
[611] Ibid., p. 100
[612] See their respective essays in John Polkinghorne ed., *The Work of Love*

relinquishing the power to intervene or sculpt the world's future. In this sense, I take the theme of kenosis further and to its logical conclusion; a total relinquishing of power. A partial self-limitation with the provision to continue to causally influence the world and allow suffering does not suffice. The Christian narrative presents God as fully relinquishing power, eventually making the ultimate sacrifice in Jesus' crucifixion. The sense of ultimacy portrayed in the crucifixion could be interpreted as giving credence to the notion that the kenotic creation is also ultimate – a complete self-emptying, which would cohere with a Christian understanding of God and with the naturalistic ontology advocated here.

Autonomy

A related theme which can be seen as supporting a theological appropriation of a naturalistic ontology is the theological necessity of creation's autonomy. Similar to the theme of kenosis, several scholars engaged in the religion-science dialogue have acknowledged the importance of contingency, chance, and how integral these issues are to the scientific worldview and indeed the theological problem of evil. Barbour for example, notes that the concept of divine self-limitation is more coherent with the biblical depiction of God and with current scientific evidence regarding contingency.[613] However, Barbour is still reluctant to accept a worldview that is fully contingent, i.e. not teleological. He discusses an overall plan for the world, though one which is not completely predetermined:

> We can see design in the whole process by which life came into being, with whatever combination of probabilistic and deterministic features the process had. Natural laws and chance may equally be instruments of God's intentions. There can be purpose without an exact predetermined plan.[614]

[613] Ian G. Barbour, *When Science Meets Religion: Enemies, Strangers or Partners?*, (San Francisco: Harper Collins, 2000) pp. 169-170
[614] Ibid., p. 63

Contrary to Barbour, I suggest that only the image of a fully autonomous creation can provide an aspect of a response to the problem of evil; a naturalistic ontology in which God has no direct involvement explains evil by referral to natural processes, which God does not directly engage with. Barbour makes a similar appeal to kenotic thought, as he writes that, "Voluntary self-limitation exonerates God from direct responsibility for specific instances of evil and suffering...."[615] Barbour goes on to promote an overall purpose in the world, which he himself acknowledges makes God ultimately responsible for suffering. This it is argued, is a key weakness in Barbour's thought, and indeed the thought of others who view an overall plan in nature or divine action. An autonomous and non-teleological creation seems more theologically palatable and indeed more congruent with scientific depictions of the world's causal web.

Whilst Barbour, Polkinghorne, Peacocke and others support a degree of divine self-limitation, they are unwilling to allow a fully autonomous creation, which my understanding of a naturalistic ontology requires. Barbour for instance, acknowledges the functionality of naturalism, but when understood as a metaphysic he feels it rejects many traditional religious beliefs and is minimalist with respect to religion. As such, he classifies forms of scientific naturalism such as that espoused here as being in conflict with religion.[616] However, contrary to Barbour's assertion, it is contested here that a naturalistic ontology does not conflict with a religious view; a naturalistic ontology is demonstrably coherent with a theological conception based on the themes of kenosis, autonomy, and atemporality which will be discussed in the next section; scientific naturalism is thus compatible with a theological understanding of the world. It may be the case that science could have fully laid waste to any notion of religious belief, in some as of yet inconceivable way (perhaps by providing a definitive explanation for the existence of the universe and its orderliness), but it

[615] Ian G. Barbour, 'God's Power: A Process View', John Polkinghorne ed., *The Work of Love*, pp. 6-7
[616] Ian G. Barbour, *When Science Meets Religion*, pp. 157-159

has not. Moreover, if this were to occur, then intellectual honesty would require such a view to be accepted, presuming it passed all of the usual scientific and philosophical rigour. It would be meaningless to persist with belief in a God in spite of evidence to the contrary. However, the picture that is presented from the naturalistic ontology leaves us with a sense of depth, on questions such as why the universe exists and why it is comprehensible.

Furthermore, the image of an autonomous creation can be argued for from a theological perspective even without recourse to science or the problem of evil. For example, it can be argued that creation needs to be autonomous in order for it to be considered having a relationship with God as opposed to merely being an extension of God, or a manifestation of God's wishes. A world which is autonomous allows for freedom and thus is opposed to a God who maintains ascendency of creation, becoming a tyrant or a puppet-master (to use the phrases of Polkinghorne and Haught respectively).[617] Freedom or autonomy is an important facet of theology; without it, the significance of moral actions becomes questionable. Similarly, when applied to creation, the significance of any action, morality, religious thought, devotion, etc. is diminished if they were predetermined. It may not be that the world would be completely pointless if the outcome was foreseen, though it could be argued that the significance is diminished, akin to watching a sports event the outcome of which is already known. If the world was not fully autonomous, evil acts too, the holocaust and the suffering of children, would merely be elements of a plan being unfolded – the crux of Dostoevsky's theodicy challenge. A free and autonomous creation is then more coherent with the theological concept of a good God, as well as with the various other themes explored above (scientific knowledge of the natural world and kenosis).

[617] John Polkinghorne, *Reason and Reality: The Relationship Between Science and Theology*, (London: SPCK, 1991) p. 83; see also, John Haught, 'Darwin and the Cardinal', *Commonweal*, 132.14 (2005) p. 39

Atemporality

Another element of theologically appropriating a naturalistic ontology is the acknowledgement of the theme of atemporality. Time itself is a distinct caveat of any ontology, theological or otherwise. As Stephen Hawking explains, since the early twentieth century and the theories of scientists such as Einstein and Henri Poincaré, time has been understood as intricately bound with space; Einstein's theory of relativity denies the existence of an absolute time as we experience it.[618] This may have implications for our thinking with regard to 'future' events, whether we consider anything to be teleological, predetermined, or open ended and contingent. If 'future' is not necessarily as we envisage it, given that time is not as we experience it, then this may make unintelligible any talk of teleology or non-teleology. Yet it could also be argued that our worldly experience, and thus values and religious beliefs are to at least a significant degree dependent upon our experience of time. Therefore, we must approach the concept of timelessness with caution. Drees makes this point as he expresses concern over diverting attention from concrete contexts of injustice and suffering to a timeless and eternal 'other place'.[619] Therefore, a theological balance needs to be struck between an acknowledgement of the nature of time as presented in physics, and the importance of time in our experience.[620]

The image of God acting in the immediacy of the physical world seems to rely too much on the notion that our experience of time is universal, a notion which modern physics has to some extent, laid waste to. Therefore, considerations of divine action in our world may be implying too local a conception of God. A wider image of God as creator must acknowledge the far more pliable vision of time on the larger scale. Moreover, the God of classical theology/philosophy corresponds to such an atemporal God – a God which is not

[618] For a summary, see Stephen Hawking, *A Brief History of Time: From the Big Bang to Black Holes*, (London: Bantam, 1992) pp. 15-34 [Originally published 1988]
[619] Willem B. Drees, *Beyond the Big Bang*, p. 148
[620] Ibid., p. 146

limited by our experience of time. It is clear in the writings of Augustine, for example, that he believed God to transcend time, given that God created time, "thou art the Creator of all times... thou madest the whole temporal procession."[621] Aquinas too, acknowledged God's timelessness, though for him, this gave God a vantage point from which God could foresee events which we experience as the future.[622] Polkinghorne suggests slightly differently that in the thought of many classical theologians, God cannot have foreknowledge of the future as all events are equally contemporaneous to the atemporal gaze of divinity.[623]

The physical picture of the universe which sees time and space as intricately bound together as different dimensions of the universe presents interesting problems for theological ideas, a full analysis of which is beyond the scope of this work. The naturalistic ontology advocated here is coherent with the notion of a God that is outside of time and space, though as stated earlier, it is also necessary for the world's freedom as a response to theodicy that the unfolding future as we experience it is not predetermined or foreseeable. As Drees suggests, there must be a temporal aspect to God in order for our experience of aesthetics for example, to be meaningful, "… God has God's time."[624] Polkinghorne also considers a similar divine dipolarity of eternity/time; he agrees with the position asserted here, that the temporal aspect of the world does indeed preclude God's knowledge of the unformed future, even though God may be considered timeless.[625] Given that time appears to be a part of creation, in both the Augustinian theological tradition and indeed in terms of modern physics, it is assumed here that God is indeed atemporal. This understanding coheres well with the prospect of a naturalistic ontology – an autonomous and free wold. Divine

[621] Augustine, *Confessions*, Albert C. Outler trans. and ed., (Philadelphia: Westminster, 1955) p. 182
[622] Ernan McMullin, 'Cosmic Purpose and the Contingency of Human Evolution', pp. 355-356
[623] John Polkinghorne, 'The Nature of Time', Shahn Majid ed., *On Space and Time*, (Cambridge: Cambridge University Press, 2009) p. 282
[624] Willem B. Drees, *Beyond the Big Bang*, p. 150
[625] John Polkinghorne, 'The Nature of Time', p. 283

atemporality then, can be considered as another facet of theologically appropriating a naturalistic ontology, as it places God outside of time and space.

4.4 Conclusion

A theological appropriation of a naturalistic ontology may seem at first glance an oxymoron – indeed it is for several scholars discussed above. However, a case has been made in this chapter for precisely such a view. In section 4.1, a naturalistic ontology was outlined as understood in this context. This ontology, it was argued, stems from Greek philosophies of causality and atomism, and has been substantiated over the centuries through various scientific paradigms. The key features of this naturalistic ontology are that the world is comprised solely of material substance; sub-atomic particles form atoms, which form chemicals, which form amino acids, proteins, RNA and DNA, and ultimately there is an unbroken causal chain that accounts for all existence including human consciousness and morality. The laws of this causal process, the laws of nature, are absolute and unbroken, a statement which carries theological relevance given that it does not envisage any direct involvement in the world from the divine. It was also indicated that such an ontology has discernable caveats and criticisms, which were also acknowledged in this section. Therefore, the adoption of a naturalistic ontology was not naïve, but carefully and tentatively considered. Ultimately, it was argued that such caveats and criticisms do not amount to a substantial argument against a naturalistic ontology. Moreover, developments in modern science were also highlighted which add credence to a naturalistic ontology. Whilst scientific advancements in brain-computer interfacing, artificial intelligence and synthetic life do not definitively validate a naturalistic or material ontology, they would be consistent.

The theological coherence of a naturalistic ontology was then considered in section 4.2. Whilst it was shown that the more prominent approach towards the natural world from

theology has been to consider various forms of divine action, it was argued in this section that none of these positions can overcome the theological problem of evil. The problem of natural evil offers substantial theological reason to adopt a naturalistic ontology, as does the argument from the integrity of contingency. The final section of this chapter, section 4.3, then sought to theologically appropriate a naturalistic ontology by demonstrating that it is consistent with the important theological themes of kenosis, the autonomy of creation and atemporality.

Despite these arguments in favour of a naturalistic ontology, it is acknowledged that envisioning the world as an unalienable causal system may seem nihilistic. Including conscious thought and hence, morality as elements of physical causation in the evolutionary process, may lead some to discount any element of ultimate hope. There may be a sentiment of forsakenness and despair, as Bertrand Russell wrote of evolution, "So far as our present knowledge shows, no ultimately optimistic philosophy can be validly inferred."[626] Here, we reach the cardinal argument of this thesis; that evolutionary ethics offers us a 'get-out clause' from this nihilistic outlook, and provides a glimmer of hope. This argument will be presented in the next chapter.

[626] Bertrand Russell, *Religion and Science*, p. 26