

**Beyond Critical Realism: A Neo-Rortian Approach to
the Science and Theology Debate**

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Abstract

This thesis will aim to show that the currently fashionable model for the interaction between science and religion, critical realism, is unhelpful. We will be particularly concerned with examining the implications of critical realism for science and religion in general and for Christian theology in particular. An attempt is made to demonstrate that critical realist approaches are philosophically problematic and lead to unacceptable compromises for both scientific and religious vocabularies and to inappropriate theological conclusions. It will be shown that the problems originate in any form of realist approach to the two disciplines and whether it be an uncritical realism or a critical realism the end result is a diminished appreciation of the scientific and theological narratives. The thesis will also identify a 'Logical Positivist Disposition' at the heart of critical realism that leads to an elevation of scientific language over religious language. The thesis proposes that a more helpful way of picturing the relationship between the disciplines is the 'Creative Tension' model, an approach that builds upon the pragmatism of Richard Rorty.

The thesis begins by looking at one of the most influential critical realist writers in this field, and possibly the most representative of the current genre of Christian scientist-theologians, John Polkinghorne. In identifying some of the theological problems generated by his approach the thesis also uncovers serious philosophical problems with critical realism itself which are explored in Chapter Two which focuses on Michael Devitt, a distinguished proponent of this position. During the course of this section the thesis also identifies the 'Logical Positivist Disposition' that, it is argued, permeates the critical realist approach. In Chapter Three the implications of applying a critical realist philosophical approach to the relationship between science and religion are explored in more detail in an appraisal of the natural theology of Ian Markham. Chapter Four examines other possible models of interaction between the subjects looking at the work of Nicholas Rescher, J. Wentzel Van Huyssteen and Eberhard Herrmann's so-called pragmatic approach. All are found to be inadequate and somehow still indebted to some form of realism. In Chapter Five an attempt is made to identify the thinking of Richard Rorty as a possible route towards a new way of picturing the issue. Rorty's pragmatism is explored and developed in the 'Creative Tension Model' which crystallizes this new approach to the interaction between science and religion. In Chapter Six, in an exploration of scientific and religious attitudes towards the question of human origins, we provide an instance of the sort of ways in which this model might function.

The Creative Tension Model avoids the philosophical and theological problems generated by realist approaches and, in its pragmatic emphasis on usefulness, helps to prepare the grounds for increased interaction between science and religion rather than conflict.

Table of Contents

Introduction	2
Chapter One	8
‘The Triumph of Critical Realism in the Science and Religion Debate’	
Chapter Two	49
‘Michael Devitt: A Defence of Critical Realism’	
Chapter Three	80
‘Ian Markham: Realism and Theism’	
Chapter Four	113
‘Creating an Alternative: Towards a Model of Creative Tension’	
Chapter Five	153
‘Richard Rorty: The Route to the Creative Tension Model’	
Chapter Six	212
‘Creation and Evolution: A Preliminary Application of the Creative Tension Model’	
Conclusion	246
Bibliography	251

Introduction

The relationship between science and religion remains a key question of our age. The reason so many writers today are struggling to reconcile these two approaches to the world, is because of a background assumption that they are somehow in conflict. The conflict arises because they are both perceived as descriptions of reality. In the contemporary debate between scientists and theologians there has emerged, almost, a consensus around the methodological approach of critical realism. This is largely thanks to the enormous achievements of John Polkinghorne and the Christian scientist-theologians. Critical realism in this context is presented as a possibility. It suggests the ways in which we can, simultaneously, hold onto our religious belief and our faith in scientific descriptions of the world. However, there are questions surrounding the coherence of critical realism itself and the effects of such an approach on the relationship between science and religion.

This thesis will show that the most influential current model for the relationship between science and religion, critical realism, is unhelpful. It will also attempt to argue, contentiously, that critical realists ultimately make the same mistakes as the logical positivists. This needs some clarification. The logical positivist movement, in its purest form, reduced the scope of 'meaningful' language to that of tautologies and scientific statements that were susceptible to verification or falsification. Though the movement is no more, its prescription for the sort of things that should count as meaningful, or its 'disposition', lives on in the critical realist approach that is currently fashionable amongst those concerned with the relationship between science and religion. This 'disposition', most evident among the eminent Christian scientist-theologians that this thesis identifies, is characterised by attempts to find a way for

religious vocabularies and theological discourse to liaise with scientific vocabularies in their representations of 'reality'. By vocabularies we mean the different ways communities have developed for coping with and modifying their relationships with each other and with their environment.¹ The problem here is twofold. Firstly, there is the problem of the representational view of language that is assumed by critical realism. Secondly, there is the question of the useful intent of different vocabularies and the related theme of the *integrity* of different vocabularies. The relationship between the two problems is this: a representationalist (and hence critical realist) approach to vocabularies carries with it the idea that our language somehow refers to 'reality'. The assumption built into this approach is that we need to establish criteria for judging between statements that do describe reality and those that do not. The result is that statements that are not considered to describe reality are either rejected or, their proponents must find some way of reorienting them so that they are more attuned to the class of legitimate descriptions of reality.

The natural disposition of critical realists, though it may be veiled by gestures towards accommodating post-modern and pragmatic approaches, is to find a vocabulary that truly depicts reality the *way it actually is*. The vocabulary that will do this for us will be one that is able to tease out elusive objective facts from the world whilst being careful not to impose merely human standards of what constitutes reality. The justification for adopting a criterion against which we can judge the referential status of a vocabulary may come, as in the case of the logical positivists, from logic or it may, as in Ian Markham's case, come from God. The ends may be diverse but the means and the disposition are identical: it is an attempt to find some model of truth

¹ As we shall see, the concept of 'relationship' with regard to humans and their environment is used in a causal sense rather than a representational sense. We shall explore this Rorty-inspired theme in greater detail later.

that is not local to, or suggested by, our various vocabularies and the variety of uses to which they are put.

The central claim of this thesis is that the various realist proposals for the relationship between science and religion lead to a triumph of the scientific narrative over the religious narrative. The wholesale reductionism and explicit positivism of Richard Dawkins leads to the total rejection of the religious narrative because of its failure to conform to scientific, representational models of truth. Another attempt at forcing a religious vocabulary into a scientific one (and vice versa) is represented by the largely American but hugely popular Scientific Creationists. Their approach is again informed by logical positivism; their project is to render the language of the Bible 'meaningful' by transposing it to a scientific arena and subjecting it to the verification criterion. The disposition, less hidden in this case than in the other subjects we study, is towards a science that is inclusive of theological 'statements'. The damage done by this approach, as with that of Richard Dawkins, affects both scientific and religious vocabularies. We will also argue that the approach taken by Polkinghorne and the critical realist scientist-theologians is theologically damaging. This relates to another theme of the thesis which in turn informs the core of the thesis itself, the question of the integrity or autonomy of different vocabularies. This is not to say that vocabularies exist in isolation from each other but to establish that vocabularies have different uses and different *intents*. It does not mean that vocabularies' intents cannot occasionally become intertwined; indeed the Creative Tension Model² is intended to facilitate the productive interplay between the different mechanisms we have developed in order to cope with exigencies. The proposed model for interaction is

² Advocated by this thesis and developed in Chapters Four to Six.

liberating because it frees vocabularies from the need to justify their ability to intersect with reality. The common rejoinder to a pragmatic vision is that it plunges us into a nebulous relativism with no reference points by which to navigate or exercise choice. However, such a portrayal of relativism is an avatar of the old realist picture of the world that pitches the philosophical battleground as a standoff between realist and anti-realist conceptions of the world. Once we recognize that the elusive commodity of objectivity is something we, as participants in language communities, can happily talk about without invoking distinctions between it being 'out there' or merely 'created by us', we shall be much happier. Fears about relativism, then, are simply misplaced concerns that we might lose something that we never really had.

The Creative Tension Model, then, recognizes that human vocabularies have developed as responses to particular needs and have flourished or withered depending upon their ability to satisfy these needs. The implication of removing an external criterion for 'meaningfulness' is that our vocabularies undergo a democratising transformation. So it becomes possible for people and communities to uphold a variety of vocabularies and truths without forcing them to conform to any sort of putative meta-vocabulary that enjoys privileged insights into the nature of reality. This does not close down the possibility of inter-vocabulary criticism. In the same way that it is possible for intra-vocabulary criticism and development to take place and for new, more effective ways of coping to evolve, we can envisage a conversation between vocabularies that can promote re-evaluation or rejection of ways of using them. The point of interaction that allows this conversation to take place is the place where the intents of two (or more) vocabularies meet. We illustrate this in the thesis by looking at the different approaches scientific and religious (specifically Christian)

vocabularies have taken to the question of human origins.³ We show, that if by entering the conversation, not with preconditions or criteria for judging validity but instead by seeing an opportunity for enhancing the effectiveness of our vocabularies, then we will be preparing the ground for a more fruitful future relationship. This is what is at stake: the possibility of continued growth for both religious and scientific vocabularies. Both discourses endure because they go at least some way to answering the questions and needs of humanity. This grounding in human concerns ensures that we do not attempt to stray beyond our limits into the realm of ‘the real’, the empire created and serviced by realist fantasies. To advance into this realm is not to be led by the warming glow of reality but to be dazzled by our own achievements. The literally self-defeating reduction of all human aspirations and culture to the vocabulary of, for example, evolutionary science is the warning if not the fulfilment of this.

Structure of the Thesis

We begin, in Chapter One, by examining the critical realist approaches of modern Christian scientist-theologians as exemplified by the work of John Polkinghorne. We also look at the related but nuanced approaches of Ian Barbour and Arthur Peacocke, though, for the purposes of this thesis, Polkinghorne’s oeuvre can be considered as representative of a highly influential, critical realist based school. We will explore his model of interaction between the two vocabularies and attempt to show that his methodology, heavily dependent as it is on critical realism, is flawed. In order to further undermine the critical realist position it is necessary for us to examine in detail

³ It should be noted that when this thesis talks about ‘religious vocabulary’ it means (unless qualified otherwise) Christianity.

its central claims. To achieve this we turn, in Chapter Two, to Michael Devitt whose influential version of critical realism could be said to provide the philosophical backdrop for the models for interaction presented by the Christian scientist-theologians studied in this thesis. To further reveal the inadequacies of a critical realist approach we also look at Ian Markham's attempts to revive natural theology and its implications for the way we perceive religious vocabularies. In Chapter Four we introduce some alternative approaches to the sort of critical realism already examined before developing the Creative Tension Model and tracing its background in the work of Richard Rorty. Finally, we use the subject of origins (of humans and of the world) as a case study to conclusively reveal the logical positivist dispositions at work in the Creationist movement and in the hugely popular canon of the evolutionary biologist, Richard Dawkins. It will be shown that, despite the wildly diverse ends that these two applications of critical realism serve, both share this same disposition and both end up denigrating the religious narrative. A possible Creative Tension approach to the same problem is introduced as a way of deflating any conflict and promoting a more mutually beneficial future relationship between science and religion.

Chapter One

The Triumph of Critical Realism in the Science and Religion

Debate

Introduction

The central claim of this chapter is that ‘critical realism’ is the dominant epistemological model in the debate about science and religion. This triumph is primarily due to the achievement of John Polkinghorne, on whom I intend to focus my discussion. It might be objected that I am giving Polkinghorne too much credit. So briefly I must make the case that he is representative.

John Polkinghorne, FRS (b. 1930), is undoubtedly a giant amongst the scientist-theologians currently utilizing a critical realist approach to the science and religion debate:

John Polkinghorne’s previous studies of aspects of the dialogue of science and theology have rightly been well received, constituting a highly readable and scientifically well-informed account of how theistic belief can be seen as consonant with a scientific understanding of the created order.⁴

John Polkinghorne has developed a consistent and recognizable articulation of the model to be investigated. He enjoys a privileged position, having been an ‘insider’ in

⁴ Knight, Christopher (Book Review) in *Theology* (1994) September/October, Volume XCVII, Number 779, p. 391.

the world of science and now in the world of religion. Polkinghorne's reflections on the relationship between the world as revealed by science and by religion have evolved into a distinctive theology as well as an apologia for both subjects.⁵

Polkinghorne thinks that science and religion can be reconciled because their concerns have, during the twentieth century, really started to converge. Science has enabled us to explore the mysteries of the created universe and we should not see this knowledge as something discontinuous with the resource of religious and theological knowledge.

Polkinghorne's fundamental approach is shared by many other key thinkers. To take two as illustrative: Peacocke, who is theologically more liberal, and Barbour, who is more influenced by Process theology, both share the Polkinghorne assumption about the task. All three are critical realists: all three move between scientific discourse and religious discourse effortlessly. All three feel entitled to reflect on the likely scientific explanations for certain theological claims (e.g. the nature of the resurrection). In this sense, despite their significant differences a Polkinghorne set of assumptions about the task has triumphed.

Peacocke and Barbour would be happy with Polkinghorne's talk of 'verisimilitude'.⁶ Theology and science both attempt to grasp a reality that exists 'out there'. The universe is happily amenable to our explanatory schemes and Polkinghorne's critical realism is a tentative acknowledgment of this. Polkinghorne describes the

⁵ See, for example, Polkinghorne, J. C. (1983) The Way the World is: The Christian Perspective of a Scientist London: SPCK. This book sees the genesis of Polkinghorne's 'bottom-up' approach to science and religion.

⁶ See Polkinghorne, J. C. (1986) One World: The Interaction of Science and Theology, p. 17. London: SPCK. Verisimilitude is a concept that reoccurs throughout Polkinghorne's canon. It is almost emblematic of his eminently reasonable and disarming style.

relationship between science and religion as one of 'consonance'. There is 'one world' and science and religion are complementary attempts to understand it. So, even though both subjects deal with different aspects of reality, it is nevertheless, the same reality and their interaction can foster a fuller understanding of the nature of things.

So Polkinghorne represents what could almost be described as a consensus amongst many religiously inclined scientists. He is persuaded that both science and religion are describing reality. The assumptions are informed by 'critical realism'. Critical realism is the view that our language is able to describe the world. Therefore both scientific and religious languages are realist and referential and since they both aim at describing certain aspects of our experience they should be considered complementary. This thesis aims to show that this is mistaken. And we will start by looking at the damage a critical realist approach can do to Christian doctrine.

The Critical Realist Approach and the Resurrection

In this section I am proposing to examine Polkinghorne's approach to the resurrection and demonstrate that due to his critical realist assumptions he inadvertently inflicts damage on the Christian understanding of the resurrection. A few preliminary comments are necessary. First, Polkinghorne is a very nuanced and complex thinker. Although I intend to be critical of Polkinghorne and more importantly what he represents, I do so as an admirer of his achievements. Second, I am proposing to take the resurrection as my illustration of the damage that a critically realist approach to religion can inflict. It might be objected that this is distorting: after all the

resurrection is unique in so many ways. However, I want to suggest it is legitimate for these reasons. The resurrection is at the heart of Christian devotion. Every Good Friday, millions of Christians meditate on the drama of the Creator of the universe hanging on a cross and the subsequent triumph on Easter Sunday. The power of the resurrection lies in the power of hope over despair. Now although Polkinghorne would agree with all this: his actual energy is concentrated in the project of ‘explaining what actually happened’ and ‘how scientifically it is possible for it to happen’. This latter task is so dominant and therefore so important, that it obscures the meditative meaning of the resurrection. In this sense, theological damage is inflicted on the meaning of the resurrection.

The Resurrection in Polkinghorne

Polkinghorne, to his credit, has a thoughtful general position on the miraculous. He wants to argue for authentic divine activity; he avoids a meddling and capricious God; and he is happy to concede that many New Testament miracles are more symbolic in intent and the actual history does not matter.⁷ However, precisely because the resurrection is so doctrinally important, Polkinghorne does insist that ‘something must have really happened’. So in his discussion of the resurrection there is a real preoccupation with the actual event.

Polkinghorne, in keeping with his ‘bottom-up’ approach, begins his examination of the resurrection by looking at the evidence. So, to begin with, he is sure that

⁷ On the subject of God’s worldly activity Polkinghorne argues for a middle way: ‘...I do not think we have to choose between a God who is inactive or arbitrary or (worst of all) a cruel manipulator.’ Polkinghorne, J. C. Science and Christian Belief: Theological Reflections of a Bottom-Up Thinker, p. 83. London: SPCK.

something happened between Good Friday and Pentecost to transform the attitude of the disciples. Where once they had feared the authorities they now defiantly lauded Jesus as 'Lord and Christ'.⁸ He discounts the sort of interpretation that advocates a symbolic resurrection, where Jesus lives on in the hearts and minds of the faithful, as facile. Similarly, the specious theory that Jesus only momentarily lost consciousness and then recovered in the tomb is given short shrift by Polkinghorne.

Another possible explanation which Polkinghorne considers at greater length is a psychologically reductionistic one. This accounts for the resurrection event in terms of hallucinations brought on by feelings of guilt. So, the despair felt by the disciples and the expectation that Jesus had planned something significant would have combined to produce a delusion which would have spread throughout the faith community and brought about a sweeping change in outlook. Polkinghorne is again unhappy with such an explanation. He insists that reductionistic overtones and attempts to impose a modern understanding of psychology onto a distant culture do not ring true. He feels it presupposes too much about the mindsets of the disciples and does not convey the significance and gravitas of an event that has provided the foundation for a worldwide movement: '...I must confess to an instinctive feeling that hallucinations, however vivid, could not have been the enduring basis of the vitality of the early Christian movement.'⁹

Having dismissed these interpretations of the resurrection as unfaithful to the evidence of the texts, Polkinghorne puts forward his own thesis. As he points out, the

⁸ Ibid., p.109.

⁹ Ibid., p. 110.

largest collection of resurrection manifestations is collected in John.¹⁰ A common element in the stories of post-resurrection appearances is that there was a difficulty in recognising Jesus. This quirk suggests to Polkinghorne that there is a germ of historical truth to these stories which would not be evinced in contrived or parabolic stories. That the resurrection was a corporeal one is noted in Luke where Jesus asks the disciples to examine his wounds and see that he is flesh and blood. As Polkinghorne points out, though, it is important to distinguish the resurrection from the various resuscitation miracles that Jesus performed. These people were raised from the dead but were ultimately to die again (it seems rather a cruel trick to allow someone to endure the misery of death then to revive them only for them to be forced to undergo it again at a later date). Jesus' resurrection body was not a 'mere' resuscitation but a transformed being destined for eternal life.¹¹

For Polkinghorne, other questions about the nature of the resurrection body are raised by Paul's description of the general resurrection in which he makes a distinction between the terrestrial body and the celestial or resurrection 'body'. 'It is sown a natural body; it is raised a spiritual body....' (1 Corinthians 15:44) and notably, 'Now this I say, brethren, that flesh and blood cannot inherit the kingdom of God; neither doth corruption inherit incorruption.' (1 Corinthians 15:50). The resurrection 'body' is a transfigured form, possessing different characteristics to the terrestrial body. There is a sense in which, for Paul, our earthly bodies are corrupt, are damaged by their association with Adam and that only through transformation or by leaving this form behind can we be saved. Jesus, then, represents the form that this change will take.

¹⁰ Ibid., p. 113.

¹¹ Ibid., p. 115.

For Polkinghorne, the key to understanding the resurrection is the empty tomb. As Polkinghorne points out, all four Gospels contain accounts of women going to the tomb on the day after the Sabbath and finding it empty.¹² Whether Matthew's description (Matthew 28:2) suggests that Jesus somehow 'de-materialized' and was 're-materialized' somewhere outside the tomb or whether this was not the first time that the stone had been rolled away is a matter of conjecture. This, for Polkinghorne, raises questions about personal identity and whether the risen Jesus was a re-instantiation of the original Jesus in a form with different causal properties (his ability to appear in locked rooms for example - John 20:19) or whether he was just recreated.¹³

Polkinghorne argues that there are certain idiosyncratic elements within the different reports which signal the veracity of the story. One unusual element is the central role that each of the gospels accords to women, as the first people to witness the 'empty tomb'. It would have been strange, Polkinghorne notes, in the '...male-dominated ancient world'¹⁴ to have given such an important role to female characters. The argument runs that a truly contrived story would have cast male witnesses in such a highly significant role. The anomalous accounts of the empty tomb, in the different gospels, also suggests that rather than being fabricated, they represent different attempts at recalling an actual historical event. Polkinghorne makes a similar point with regard to the difficulties experienced by the witnesses, many of whom had been known by and been close to Jesus, in recognising his risen form, for example Mary

¹² Ibid., p. 115.

¹³ Price, H. H. (1972) 'Essays in the Philosophy of Religion', p. 121. Oxford: OUP. Price discusses theories about 'materialization'.

¹⁴ Polkinghorne, J. C. (1996) Scientists as Theologians, p. 76. London: SPCK.

Magdalene in John 20:14-15. Again, this ambiguity suggests that the narrative was not contrived but represented actual events.

So for Polkinghorne, we should accept that from a purely historical viewpoint (from an analysis of the evidence of ancient texts) something significant did happen on the third day after the crucifixion. Polkinghorne concedes that it is not necessary to accept all of the stories of Jesus' miraculous works at face value. It is quite probable, given the highly symbolic language of much of the New Testament that these stories were mythical and intended to represent the magical effects of Jesus' presence. The Resurrection, though, is not susceptible to this kind of interpretation or reduction because the central message of Christianity, that Jesus was sent as our redeemer and someone who would facilitate our conveyance to eternal life, demands an *actual* resurrection.

This sustained description of Polkinghorne's approach to the resurrection illustrates two aspects of his view: one, he does see the resurrection as an exception - a major event that the biblical stories strongly suggest must have been historical; two, he is not insisting that all miracles have this status.

Now to anticipate my criticisms of Polkinghorne. In my view taking the Bible seriously should not involve posing modern questions about it. The question 'what actually happened?' is a post-Enlightenment question. The Bible for Christians is a text that acts devotionally: it is not and should not become a text that can be treated as a source book for historical events. Polkinghorne would, no doubt, retort that the

Bible can be both. Indeed it is true that he is very interested in the ‘theological significance’ of the resurrection.

So, he explains, that if the story of Jesus were to end with his death on the Cross then it would be a tragedy and not the triumph that the story represents for Christians. At the very basic level, the resurrection story establishes the ‘specialness’ of Jesus in the eyes of God. Of central importance for humanity, though, is the new relationship with God that Jesus’ resurrection ushers in. As Paul notes in 1 Corinthians 15:3 - ‘....Christ died for our sins according to the scriptures’ and as he later says, stressing the importance that the resurrection should happen ‘and if Christ be not raised, your faith is vain; ye are yet in your sins.’ (1 Corinthians 15:17). Again, Paul traces the development of our relationship with God and the centrality of Christ and the resurrection for this progression: ‘For since by man *came* death, by man *came* also the resurrection of the dead’ (1 Corinthians 15:21) and ‘For as in Adam all die, even so in Christ shall all be made alive.’ (1 Corinthians 15:22).

Polkinghorne wants to stress that the message of the resurrection for Paul is victory over death, the replacement of the old, mortal Adam with the new Adam, Christ - ‘Behold, I shew you a mystery; We shall not all sleep, but we shall all be changed.’ (1 Corinthians 15:51). This change will be our ascent from corruption to innocence, from mortality to immortality: ‘So when this corruptible shall have put on incorruption, and this mortal shall have put on immortality, then shall be brought to pass the saying that is written. Death is swallowed up in victory.’ (1 Corinthians 15:54).

So for Polkinghorne the message of the resurrection is the revelation that there is a higher form of justice operating in the cosmos. It perhaps gives us an intimation of how the problem of evil is to be reconciled with the image of a benevolent and just God. At the end, in the eschaton, there will be a righting of the wrongs and where there is despair and hopelessness we will see a transformation, a spiritual rebirth. The resurrection helps to explain even the most basic of human existential questions, that the apparent meaninglessness of this life is just that, an illusion that is confounded by the risen Jesus.¹⁵ The idea that the resurrection reveals an eschatological destiny for the whole of humanity is raised by Jesus in Mark 12:18-27 - 'He is not the God of the dead, but the God of the living....' (Mark 12:27). For Polkinghorne, Jesus' resurrection '....makes sense. It fits in with who He was, and who God is, and who we are.'¹⁶ In short Polkinghorne wants an historical event that transforms God's relationship with the world.

However, once we are beyond Polkinghorne's preliminaries, the substantial discussion becomes much more scientific. So he starts to formulate an account of personhood that makes sense of it. He rejects Cartesian dualism and instead affirms a model of personhood that describes us as a 'psychosomatic unity'. He writes:

That psychosomatic unity is dissolved at death by the decay of my body, but I believe it is a perfectly coherent hope that the pattern that is me will be remembered by God and its instantiation will be recreated by him when he reconstitutes me in an environment of his choosing....Although there have, of

¹⁵ See, Polkinghorne, J. C. (1994) Science and Christian Belief: Theological Reflections of a Bottom-Up Thinker, pp.120-22. London: SPCK.

¹⁶ Polkinghorne, J. C. (1996) Serious Talk: Science and Religion in Dialogue, p. 102. London: SCM.

course, been strands of the Christian tradition which have used the language of survival of an immortal soul, I believe the tradition which is truer, both to New Testament insight and to modern understanding, is that which relies on the hope of a resurrection beyond death.¹⁷

Polkinghorne wants to think of the soul or of personality (the two words seem to be interchangeable in the sense in which Polkinghorne uses them) as 'information' or as a 'pattern' which is sustained by the body and ever changing according to the constitution of the body. At this point it sounds as though Polkinghorne is opting for a model of personhood that echoes strangely with that offered by Frank Tipler.¹⁸ This suspicion is confirmed when Polkinghorne introduces the (I will argue) specious analogy of the computer. So, with respect to resurrection, '....the software running on our present hardware will be transferred to the hardware of the world to come.'¹⁹ The implication is that the particularity of our present body is not important - we are computers made of flesh. If we are to live on or to be re-created in another life it is not necessary that our present body be reconstituted - 'Our hope is of the resurrection of the *body*. By that I do not mean the quaint medieval notion of the reassembling of bones and dust.'²⁰ For Polkinghorne, what is required is that the present *functions* of the various connections within our bodies, more specifically our brains, be replicated in some form or another. The character that this form will take is not important but it

¹⁷ Polkinghorne, J. C. (1994) Science and Christian Belief: Theological Reflections of a Bottom-Up Thinker, pp. 163-164. London: SPCK.

¹⁸ Tipler is the American Physicist who has proposed a definition of life in terms of 'information processing', a thesis that highly controversial and one that has come under criticism from writers such as Roger Penrose. See, Tipler, F. (1995) The Physics of Immortality: Modern Cosmology, God and the Resurrection of the Dead London: Macmillan and Penrose R. (1995) Shadows Of The Mind: A Search For The Missing Science Of Consciousness London: Vintage.

¹⁹ Polkinghorne, J. C. (1994) Science and Christian Belief: Theological Reflections of a Bottom-Up Thinker, p. 164. London: SPCK.

²⁰ *Ibid.*, p. 164.

is necessary and sufficient that if the 'pattern' formed by these connections is to be resurrected then some physical hardware will be required.

There are specific problems associated with functionalism and computer models of mind but there also seems to be some confusion about which model of personhood Polkinghorne is advocating. He seems drawn to a form of perspectivalism where modern physics, initially quantum mechanics, can give helpful analogies and, perhaps, even foundations for the complementarity of consciousness and physical states, despite their apparently discontinuous characters. The relative unpredictability of quantum events also, perhaps, helps to explain the existence of a subjective free will, through the phenomenon of higher-order, 'top-down' organisational principles. However, Polkinghorne feels that quantum theory does not provide a satisfactory answer to the problem of personality (why is personality or consciousness presented as a problem to be solved and not simply as a brute fact which requires no further justification?) because we still do not understand enough about it and also because unpredictability does not facilitate freedom.

Instead, Polkinghorne thinks that we can accomplish more if we turn to another branch of modern physics, the science of 'exquisitely sensitive dynamical systems'²¹ or chaos theory. Again, we should bear in mind that Polkinghorne claims that he is not seeking to find a scientific foundation for theological statements or to make them 'more real' by being demonstrated scientifically. He claims he is concerned with the more modest project of discovering consonance or mutually beneficial insights into these two approaches to the world. Whether this is what he *actually* does is a moot

²¹ *Ibid.*, p. 25.

point, the answer to which will hopefully emerge from our continuing discussion of his approach.

Chaos theory reoccurs with some regularity in Polkinghorne's work. His commitment to it as an helpful model for divine providence and for explaining human personhood is voiced in several of his books and articles. A definitive statement of his position appears in the article 'Chaos Theory and Divine Action'.²² Here Polkinghorne reminds us of his view that 'Epistemology models Ontology'²³ and applies this to the study of chaotic systems. Chaotic systems are extremely sensitive and initial conditions can have wide-ranging and dramatic consequences. The apparent impossibility of predicting the behaviour of these systems renders them, for all practical purposes, intrinsically unpredictable. This is where Polkinghorne makes his metaphysical gamble and stakes his claim that chaotic systems are not just epistemologically unpredictable (we cannot know whether they are predictable or otherwise because of gaps in our knowledge) but are *ontologically* unpredictable, that is our knowledge of these systems tells us what their essence is. This essence is an unpredictable nature or an openness to the future that is not revealed through an analysis of 'bottom-up' causal descriptions.²⁴

There are two statements to unpick here it seems. Firstly, there is Polkinghorne's metaphysical conjecture about the nature of physical reality and then there is his suggestion that other causal principles may influence the behaviour of chaotic

²² Richardson, W.M. and Wildman, W. J. (Editors) (1996) Religion and Science: History, Method, Dialogue, pp. 243-252. New York: Routledge.

²³ Polkinghorne, J. C. 'Chaos theory and Divine Action' in Richardson, W.M. and Wildman, W. J. (Eds.) (1996) Religion and Science: History, Method, Dialogue, p. 246. New York: Routledge.

²⁴ *Ibid.*, p. 247.

systems. It is not within the purview of this thesis to examine the detail of scientific theories, instead we are more concerned with methodologies.

Among para-causal factors, Polkinghorne speculates, might be something like our mental capacity or 'active information'.²⁵ So, as well as the causal properties of the physical parts, described by physical theory, there is a role for the emergent pattern that we experience as the mental. This, then is Polkinghorne's rejection of the mental or subjective as mere epiphenomena and its resurrection as a central, causal force in the world. It would appear that he has solved the problem of how the mental (whatever that is) interacts with the physical, a problem that once plagued philosophers. Before we get too carried away, though, we must remind ourselves that Polkinghorne's proposal is highly speculative. It is too rapid a move from the highly sensitive nature of chaotic systems and their susceptibility to environmental influences to a metaphysical conjecture about emergent causal forces. There may be gaps in a physical account of causality but this does not mean we can squeeze in theories about mysterious, as yet undiscovered, holistic laws of nature.

Polkinghorne describes his position on personhood as 'contextualism' - the behaviour of the parts is influenced by their setting.²⁶ The thinking is that these emergent, mental properties operate according to different causal laws, perhaps in a way analogous to the phase change a substance undergoes as it changes from liquid to gas. What emerges from Polkinghorne's thinking is a strongly anti-reductionistic position which claims autonomy for higher order, 'active information' because of its projected

²⁵ Polkinghorne, J. C. (1996) Scientists as Theologians, p. 36. London: SPCK.

²⁶ Polkinghorne, J. C. 'Chaos theory and Divine Action' in Richardson, W. M. and Wildman, W. J. (Editors) (1996) Religion and Science: History, Method, Dialogue, p. 248. New York: Routledge.

causal powers. He defends himself from criticisms of vitalism or idealism because he is not proposing that we think of the mental as a different substance. Rather, in his version of dual-aspect monism, we are asked to look at physical reality in a different light, as a far more subtle and complex system than we have been led to believe. Contextualism invites us to consider the possibility that there may be ‘...holistic laws of nature, presently unknown to us but in principle discoverable by science.’²⁷ The implications for models of personhood are considerable as are the possibilities it creates for new models of God’s interaction with the world. The openness of the physical processes, for example, make space for God’s providential activity through ‘top-down’ active information.

Just in passing, there are still a number of problems that remain with Polkinghorne’s bold interpretation of chaos theory. The starting point for his thesis was that chaotic systems were intrinsically or ontologically indeterminate. If we cannot give a full report of their activity, if such knowledge is by definition unknowable, then surely it would also be unknowable to an omniscient mind. Such a problem would lead us down the path to a reappraisal of the classical divine attributes - for example, can God do something that is logically impossible? Similarly, with regard to human autonomy, unpredictability is not a correlate of freedom; in fact it would seem that it is the opposite of freedom since unpredictability at the physical level does not translate into free volition at the subjective, emergent level.²⁸ Polkinghorne tries to escape from these criticisms by appealing to contextualism as a possible sanctuary for an, as yet unknown, set of holistic natural laws.

²⁷ Ibid., p. 248.

²⁸ Paul Avis makes a similar point in Avis, Paul (1990) ‘Apologist From the World of Science: John Polkinghorne FRS’ in *Scottish Journal of Theology*, pp. 485-502. Volume 43. Number 1. See particularly, pp. 494-495.

It still seems we are left with a God and a personhood of the gaps. Polkinghorne would argue that it is the gaps in causality rather than of knowledge which suggest that the contextual model might be an option but he offers little supporting evidence. Even If we accept the scientific plausibility of Polkinghorne's interpretation of chaos theory we are still left with the ontological problem of how the emergent 'pattern', that is our personhood, is to be recreated or resurrected. Polkinghorne, in describing the relationship between mind and body, initially opted for the computer analogy:

In a very crude and inadequate analogy, the software running on our present hardware will be transferred to the hardware of the world to come. And where will that eschatological hardware come from? Surely the 'matter' of the world to come must be the transformed matter of this world. God will no more abandon the universe than he will abandon us.²⁹

His equating of personhood with patterns of 'active information' is a further indication of his attraction towards the computer model of the mind. The identity of human thought with the sort of information processing carried out by computers is usually made by proponents of the strong Artificial Intelligence (A.I.) programme. Such a reductionist project would surely be anathema to Polkinghorne but it is difficult to see how his approach is any different even if his conclusions might not be the same. There are problems associated with attempts to make such an identity and Polkinghorne accepts that it is problematic. He even seems to agree with Roger Penrose that there is perhaps something about the specificity of our (em)bodiment, of

²⁹ Polkinghorne, J. C. (1994) Science and Christian belief: Theological Reflections of a Bottom-Up Thinker, p.164. London: SPCK.

the neurophysiology of our brains that renders emulation of our persons in some other form impossible.³⁰ Polkinghorne is also dismissive of attempts to salvage the ‘algorithmic’ model of human thought by working in the ‘mistake-making’ character of human thought . Such an approach has been taken by writers such as Arhib and Hesse but Polkinghorne is not persuaded, ‘Surely intellectual shots in the dark are no more the basis of fruitful thought than mere randomness would be the basis of freedom.’³¹

As we look in more depth at Polkinghorne’s model of personhood we discover a certain amount of ambiguity. He switches to and fro between scientific and religious discourses and I want to suggest this can create confusion. Where the explanation, in terms of natural processes, breaks down, he either engages in the sort of conjecture that a self-proclaimed bottom-up’ thinker would (one would think) flinch at or he invokes a transcendent cause. In a sense he, like Penrose, is a Platonist when it comes to the world of mathematical truth. To a certain extent this is in keeping with his critical realist approach, although it does seem to go much further than his methodology would actually allow. It is not clear whether he means, like Plato, that there is an independently existing world of ideal forms or whether he intends it in a metaphorical sense, where in the process of exploring the world scientifically, we discover something of its true nature. The latter is a more modest claim which tallies with Polkinghorne’s picture of the relationship between epistemology and ontology. The former is a top-down claim about the underlying nature of reality which is informed by Polkinghorne’s theology and his belief in a world of eternal truths.

³⁰ See *Ibid.*, pp. 26-27.

³¹ *Ibid.*, p. 27.

Notice how Polkinghorne tries to import metaphysical discourse, specifically religious language into the language of science.

An extreme example of theological language being transposed into a scientific context can be found in the work of Frank Tipler. His Omega Point theory projects a future where intelligence will expand to fill the entire universe. His eschatological vision was based upon a specific model of personhood, the computer model, which as we have seen, is problematic. Polkinghorne is aware of this and he notes the difficulties with Tipler's anthropological vision.³² For him, Tipler's model is too strange; resembling a version of pantheism or an extended form of evolutionary optimism rather than Christianity. Although he feels that Tipler's attempts to forge a viable physical eschatology are wrong, he does not discount the idea of taking theological concepts and subjecting them to scientific rigour. As we have seen, he has already offered chaos theory and (yet to be discovered) holistic laws of nature as possible scientific ciphers for God's providence. Now, human personhood is described as a feature of dual aspect, monistic metaphysics, which is itself underwritten by speculative theories about quantum complementarity and chaos theory.

It is not necessary for us to explore Polkinghorne's views on eschatology in detail. Suffice it to say, for all Polkinghorne's attempts to distance himself from Tipler, he seems to be in a similar location. However, at the heart of Polkinghorne's view of personhood, we find an acceptance of the position which he describes as 'strong anti-reductionism'³³. The magical ingredient that is our experience of the mental is something unique in the natural world and not explicable in terms of the behaviour of

³² Ibid., pp. 165-6.

³³ Polkinghorne, J. C. (1994) Science and Christian belief: Theological Reflections of a Bottom-Up Thinker, p.29. London: SPCK.

the parts that give rise to it. The new name for this phenomenon, though, is not vitalism but chaos theory.

Polkinghorne's model of personhood, whilst still rooted in the physical, allows for the development of something which cannot be explained in purely physical terms, or at least not using our current knowledge of physical laws. In Polkinghorne's model the mental cannot be something ontologically different from but, instead, it is a different class or 'phase' of, the physical. Polkinghorne believes that this model 'makes space' for a variety of different phenomena, notably the subjective character of experience, our experience of autonomy and the providential activity of God. If Polkinghorne's conjecture about the 'open character' of the physical world is right then all these, traditionally metaphysical or theological concepts can, apparently, be accommodated within a scientific approach.

There are still certain difficulties embedded in Polkinghorne's position. He introduces the computer model of mind only to reject it without really defining an alternative. Like the proponents of the computer model he is drawn to the idea of the mental as information although he does give it the more dynamic prefix of 'active' information. The intention here, it seems, is to emphasise the centrality of the human experience of consciousness that is often sidelined in reductionist strategies. This does nothing, though, to clear up a potential difficulty with Polkinghorne's metaphysics. His endorsement of the essentially reductionistic computer model of mind is puzzling. On resurrection, for example, he says that the traditional conception of the transition from death to re-creation could be '....accommodated, and it would find its natural expression in terms of those remembered patterns of ourselves held in

the mind of God (the preserved 'software' awaiting a new realization through resurrection and, perhaps, subject to some 'debugging').'³⁴ This statement comes just a few pages after his criticism of Tipler's 'finite-state machine model of humanity' and his reassertion that he does not think we are mere 'computers made of meat'³⁵

So, we emerge from our discussion of Polkinghorne's model of personhood with a certain degree of confusion. Again, it is important to stress that we find ambiguities in Polkinghorne's arguments and conclusions that appear inimical (rather than a source of creative influence) to religion. There is a strong feeling throughout the work of those scientist theologians who subscribe to this model that they 'want it both ways'. In other words they want science to provide backing for specific theological doctrines but they do not want to be labelled as 'integrationists' who seek to reduce theological descriptions to scientific descriptions.

Polkinghorne wants to argue for the irreducible quality of the mental, which emerges, in a way similar to the technical term - 'phase change', as a new phenomenon complete with its own 'contextual' causal properties. Although he is careful not to make ontological claims for this unique phenomenon in nature, that would be a reversion to vitalism, he does suggest that there is something special about our particular bodily form. The implication is that we could not live on or live again in any old instantiation (what is it that is being instantiated?) So, personhood, like Ryle's old analogy of 'team spirit', is something that emerges out of a particular organisation of parts, which transcends and is not explicable in terms of the functions

³⁴ Ibid., p. 173.

³⁵ Ibid., p. 165.

carried out by the individual parts.³⁶ This is the essence of any holistic approach. It is not clear that this is really, though, what Polkinghorne is saying. At other times he seems to want to make a metaphysical distinction between mental and physical which characterizes a person as someone ‘....able to participate in a noetic world of ideas and purposes, as well as being able to act within the *physical* world.’³⁷ This sounds more like a sort of Platonism than holism, or at best a rarefied form of dualism. However, on the other hand, Polkinghorne is keen to give naturalistic explanations where once it may have been acceptable to invoke the supernatural. So, the apparent gaps in our knowledge turn out to be ‘causal gaps’ and not epistemological at all. Polkinghorne’s critical realism, which often is not quite as critical as he leads us to think, affords him opportunities to make grand conjectures, protected by the reassuring rationality of a method that is apparently scientific. For these reasons and from our wider assessment of his model of personhood, we must conclude that there are significant difficulties with his approach. The central question, though, is what all this means for Polkinghorne’s model of resurrection. We shall now return to this question.

Our necessary diversion into an analysis of Polkinghorne’s ‘contextualist’ model of personhood has revealed certain difficulties that affect his approach to resurrection. It also demonstrates some of the more general problems with the entire consonance model. To keep the focus on the specific issue of the resurrection, it seems that Polkinghorne has written himself into a corner. On the one hand he did start with the biblical texts and writes with commendable passion about the meaning of the resurrection for Christianity in terms of how it positions us in relationship to God, Jesus and our everyday experiences, notably in the moral sphere. Here, Polkinghorne

³⁶ See, Ryle, G. (1990) *The Concept of Mind*, p. 18. London: Penguin.

³⁷ Polkinghorne, J. C. (1994) *Science and Providence: God’s Interaction With the World*, p. 33. London: SPCK. My italics.

is good. If we take the theological perspective in isolation, there appears to be no great problem. The arguments are internally coherent and they also tally with some basic human experiences such as the desire for some form of ultimate justice and the feeling that our extinction would render the present life meaningless.

The problems emerge when the theological picture is to be reconciled with a scientific picture. As we shall presently see, Polkinghorne's fusion of the Lakatosian/Polanyian formulations of what science is and how it goes about its business is certainly radically different to the image of science presented by numerous popular science writers. Under their descriptions, science has become the final and only truth to be told about the universe, a truth that is narrated by the universe itself. One of the principle difficulties with Polkinghorne is that he never really gives a satisfactory clarification of how science and religion interact with each other. He is torn between advocating science as the new natural theology and stressing the limitations of science as a route to the Christian God.³⁸

More significant, Polkinghorne's preoccupation with scientific descriptions of the resurrection distorts the theological insights. As we have seen, he is anxious to retain the bodily component of the resurrection form. Polkinghorne believes this is a Biblical truth that makes scientific sense. Leaving to one side whether it really is a Biblical truth, my difficulty is that he does not explain why he thinks science is a suitable medium for exploring such a pivotal and mysterious theological concept.

³⁸ See particularly, Polkinghorne, J. C. (April, 1987) 'Creation and the Structure of the Physical World' *Theology Today*, pp. 53-68. Volume 44, Number 1. This reference is specifically to page 68. Actually in the very same article he appears to contradict his own view of the personal nature of scientific encounter, distinguishing between the '....clear, beautiful, lunar landscape of science.' and the '....untidy, perplexing world of personal encounter.' (Ibid., p. 68).

Throughout his body of work he asserts that science and theology share certain features - they both, for example, seek after truth and they both believe that such an end is possible. Where they differ, Polkinghorne claims, is in their approach. It is at this nascent stage in his position that we, perhaps, can begin to see a significant difficulty which will be a theme of this thesis. To begin with, the putative critical realism is all too often abandoned in favour of an unmitigated realism. The characterisation of science that emerges is of the unreconstructed, Baconian form - (as scientists) 'We transcend the physical world and can wrest its secrets from it by putting it to the experimental test.'³⁹ The scientific narrative is in control. We do not have to be a Rorty to question the idea that scientists or indeed anyone can be said to transcend the physical world. The implication of going beyond the physical world is that there is something beyond the physical which we can access. This, presumably is the Platonic realm of ideas which Polkinghorne alludes to in his description of the status of mathematics. The truth which scientists penetrate or reveal, to continue the Baconian imagery, corresponds with the ultimate truth or God. There are, in my judgement, problems with this position but we will put them to one side for the moment and return to them after we have looked at Polkinghorne's summary of the theological approach.

The theological approach to truth is depicted in much more passive terms. Rather than actively seeking or testing, we are forced to be receptive and accept that experience, rather than being invoked '....comes to us as a gracious gift.'⁴⁰ This seems to be a rather pessimistic view for a critical realist to hold but it does identify a crucial difference between scientific and theological approaches to the world and it perhaps

³⁹ Polkinghorne, J. C. (October, 1995) 'Contemporary Interactions Between Science and Theology' *Modern Believing*, p. 37. Volume XXXVI, Number 4.

⁴⁰ *Ibid.*, p. 37.

demonstrates why science is impotent when it comes face to face with foundational theological issues such as the Resurrection. The trouble with Polkinghorne's approach is his adoption of the correspondence theory of truth which is a corollary of any realist metaphysic. His assessment of the science of the resurrection seems to lead to an analysis that is primarily scientific and, in my view, not entirely coherent.

My suggestion is this: Polkinghorne, in the end, lets theology operate as a secondary narrative to the scientific. Of course, he is right to insist that the way we use theological language is constrained by other descriptions, notably descriptions of the natural world. This is something that this thesis is in agreement with. Scientific knowledge imposes limits on the sort of interpretations that theologians can give, or at least it should if we agree that both discourses are talking about the same world (albeit different aspects of the world). Polkinghorne is wary, though, of the dangers of attempting to unify the two discourses or reduce one discourse to the other. The enormous explanatory successes of science have led many to endorse it as the final discourse, the unification of human knowledge or the discourse that supersedes all others. We have already voiced our misgivings about the 'absorption' model or to use Polkinghorne's language, the 'assimilation' model, and Polkinghorne is similarly wary:

Here, the attempt is made to achieve a greater degree of merging of the two disciplines. What is involved is far from a total absorption of one discipline to the other, but there is a degree of accommodation of the one to the other that could seem to threaten the former's justified autonomy....Each has its own

particular subject matter and its own conceptual system, which have to be respected and which cannot just be transferred across to the other.⁴¹

The relative autonomy that Polkinghorne demands is only a partial autonomy and this only comes into effect when we are confronted with theological concepts which seem to be, quite frankly, at odds with current scientific knowledge. In the face of the cosmologists' grim projections of our destiny, some have responded with a form of evolutionary optimism, which Polkinghorne rejects as a form of Process thought that is at odds with Christian doctrine. Hints of the Christian eschatological hope are given in the story of the resurrection of Christ which contains within it the promise of a new life in a new creation. Up to this point in his argument, Polkinghorne has attempted to reconcile his interpretation of Christian personhood (as psychosomatic unity) with his novel interpretations of current scientific ideas. So, far, there is no problem with providing scientific explanations for theological concepts and in this case, assimilating a religious model of personhood to a certain scientific model. As we have seen, though, even this initial step is flawed and the particular model of personhood which is required for his subsequent model of universal resurrection is problematic. The end result appears to be that Polkinghorne is forced to fall back upon an explanation 'of the gaps' or, worse still, an explanation that makes no attempt to conform to the consonance model. This thesis argues that one of the main problems with a critical realist approach is that it operates with Logical Positivist Dispositions. That is, it implicitly accepts that scientific discourses are the most effective routes towards the rendering of meaningful representations of reality. One of the results of this is that other vocabularies, notably the religious vocabulary are

⁴¹ Polkinghorne, J. C. (1996) Scientists as Theologians, p. 7. London: SPCK.

forced to stand in a subordinate relationship to these privileged scientific discourses. This leads, as we have seen, to some theological damage. That is, that the meaning of Christian theological concepts becomes twisted as they are removed from their proper devotional context and forced into an alien scientific realm.

At this point Polkinghorne might argue that this is all entirely in keeping with a consonance model of the relationship between science and theology. It is an acknowledgment of the limits of scientific discourse to stop short of offering Tipler-like projections of essentially theological concepts like eschatology. After all, as we have emphasized throughout, science attempts to give a description of the world in naturalistic terms - it cannot invoke transcendent or supernatural causes. Similarly, although the practice of science is necessarily tied up with persons and personal perspectives it is not capable (yet) of giving a full explanation of these persons and personal perspectives. Such explanations, traditionally concerned with religious and existential questions are the preserve of theology and it is appropriate that theological descriptions are accorded equivalent status. Unfortunately, there seems to be a lack of consistency in the way that Polkinghorne adheres to this judgement.

The Bible tells us that Jesus performed miracles and, under a revised interpretation of miracles as coherent expressions of divine activity, we can perhaps accept them from a theological perspective (although we are still left with the problem of theodicy).

The scientific coefficient of miraculous activity is identified in Polkinghorne's conjecture about holistic, 'top-down' causal laws. Here, Polkinghorne believes, there can be made a real case for the happy marriage of theological and scientific discourses. We are able to give two different levels of description for the same event

and reflect the diverse character of experience whilst retaining the unity of the one world that is the object of this experience. It is not clear, though, where the cut-off point is supposed to be; where one mode of discourse must take over because the other has no explanatory expertise. Given the increasingly 'theological' nature of certain branches of modern science the judgement about where such a dividing line is drawn becomes increasingly difficult. Or maybe this is to misrepresent the problem. Perhaps rather than thinking of the two disciplines as existing on a continuum we should instead view them as parallel discourses that occasionally overlap. In the same way motorways often run adjacent to train tracks and occasionally, at level crossings, both media are forced to intersect, but they remain distinct, alternative modes of reaching the same destination. Where this analogy breaks down, though, is with Polkinghorne's insistence on the consonance and complementarity that exists between the two disciplines. Theology is not to be seen as a mere gloss on the structure of science, as a humanising factor which makes science's often stark truths more palatable. If this were the case then theology would be little more than a useful fiction that enables us to cope with the coldness of the universe or something to fill the gaps in scientific knowledge. Perhaps this is where Polkinghorne runs into problems and where the two subjects, rather than being aimed at the same end, actually diverge and approach different questions with necessarily different methodologies.

Polkinghorne is interesting because he actually tries to find a place for the spiritual, for the religious and personal nature of experience within the world described by science. Whether this space is that created by quantum indeterminacy or by 'chaos' theory it is still, nevertheless a 'physical' space, a space explicable in scientific terms.

Even if Polkinghorne holds out hope for the discovery of new, putative holistic laws of nature which appear to allow (not that permission is required in our everyday experience) for the existence of human autonomy and even divine providence. What Polkinghorne is doing, in effect, is engaging in a form of functionalism. The implicit hope is that our everyday way of talking about our hopes and feelings will eventually be given a firmer basis in physical laws.

This is the belief that Polkinghorne is committed to, despite his protestations to the contrary, and it can be seen in his approaches to personhood and the resurrection. The only confusing factor is why he holds back from the logical conclusions of this approach. He wants to retain the autonomy of theological discourse and the specialness of humanity and consciousness without assigning to them any special ontological status. To separate mind out from the rest of creation, to make it discontinuous with the rest of the physical world would be an admission of dualism. As such, even though he is willing to speculate about the physical basis of autonomy and providence (and even miracle) he is forced back into theological realms when faced with the problem of Resurrection.

The argument thus far, then, is this: Polkinghorne has carefully and skilfully attempted to weave together the worlds of theology and science. However, despite his intentions, there is a dominant preoccupation with 'working out the science' that ultimately reduces the significance of the theological insights. In addition, his attempts to combine the two discourses are not entirely convincing. On the key question of the nature of personhood that makes resurrection possible, we find an account that is problematic. In short then, this study of the Resurrection has shown

(a) the difficulties of trying to interpret the resurrection passages ‘scientifically’ and
(b) the resulting neglect and ‘playing down’ of the theological significance of the
resurrection passages. Towards the end of my discussion I suggested this illustrates
lingering Logical Positivist Dispositions: in other words, the only really meaningful
narrative is the scientific one.

The Critical Realist Framework

We have explored Polkinghorne’s treatment of the resurrection as an exemplar of the
way in which, despite his intentions, the scientific issues tend to end up being
primary. In this concluding section of this chapter we need to make explicit the
critical realist framework in which Polkinghorne is operating. It is this framework
which will be my target in the rest of my thesis.

Polkinghorne identifies four ‘points of interaction’ between science and theology.
The first concerns ‘...religious claims about miracles and about a human destiny
beyond the disintegration of the body in death.’⁴² The second point of interaction
comes from the ‘...curious way in which modern science seems, almost irresistibly,
to point beyond itself.’⁴³ A third point is the ‘...mutual influence of their habits of
thought(...)Each is corrigible, having to relate theory to experience, and each is
essentially concerned with entities whose unpicturable reality is more subtle than that
of naïve objectivity.’⁴⁴ The fourth and final point of interaction is ‘...the assertion

⁴² Polkinghorne, J. C. (1986) One World: The Interaction of Science and Theology, p. 63.
London: SPCK.

⁴³ *Ibid.*, p. 63.

⁴⁴ *Ibid.*

that all non-scientific levels of meaning are ultimately subverted by a thorough-going scientific reductionism.’⁴⁵

We will focus upon the last three points, starting with his second point about the ‘transcendent’ quality of modern science. In writing about this apparently paradoxical quality of science, Polkinghorne compares aspects of modern scientific research to the discipline of natural theology. Amongst theologians, he argues, the idea that we can obtain knowledge of God through meditation about the natural order, has fallen out of favour. Polkinghorne points to various reasons for this, notably the failure of the traditional design argument in the light of the Darwinian revolution.⁴⁶ This is contrasted with the experience of a significant number of scientists, especially physicists and mathematicians whose territory is the bedrock of the universe. It is in these fundamental areas of science, Polkinghorne argues, that researchers are finding a harmony and beauty that points to something beyond the kind of knowledge that a scientific methodology can provide.

Polkinghorne’s third ‘point of interaction’ relates to the similarities in method between science and theology. In both cases theory or doctrine must stand the test of experience. A religious tenet that is irreconcilable with our experiences is as invalid as a falsified scientific theory. Also, both disciplines call upon our resources of imagination and ask us, at times, to accept things that can appear counterintuitive. There are paradoxes in both science and theology – ‘One cannot tell the wave-particle

⁴⁵ Ibid.

⁴⁶ Whilst the ‘traditional design argument’ which postulated God as the mechanism or designer of all flora and fauna was trounced by the theory of evolution, the design argument lives on in amended forms. A notable restatement of the argument can be found in, Swinburne, Richard (1979) The Existence of God, Chapter 8. Oxford: OUP.

story of quantum mechanics without thinking of the God-man duality of Christ.⁴⁷

Polkinghorne's fourth 'point of interaction' is not so much an interaction but a tyranny of science over theology. It represents a full-blown scientism where the only true explanations are those provided by science. It is just this sort of reductionism from which Polkinghorne is keen to distance himself.

It is in the second and third points, just described, that we can find the germ of Polkinghorne's position. He wishes to both extend the traditional view of science and cultivate a theology that is more receptive to scientific ideas. To understand this more fully we must examine his views about scientific methodology.

Let us start by looking at some of the writers who have influenced his position and then we will examine his reasons for adopting a critical realist approach.

Polkinghorne has very strong views about what science is and what it is not. His position has clearly been heavily influenced by his experiences as a professional scientist. He has a progressive view of science as something that is practised by people and as such, is a creative and, to a certain extent, a personal pursuit. He is not taken with the Kuhnian model of science which describes scientific progress in terms of revolutions and paradigm shifts. The resulting incommensurability of the theories that lie on either side of the paradigm shift is something that Polkinghorne does not recognise.

Kuhn has proved widely influential outside science. The notion of paradigm shift has proved eminently exportable. Yet his account of science is not one that

⁴⁷ Polkinghorne, J. C. (1986) One World: The Interaction of Science and Theology, p. 84. London: SPCK.

makes sense to a scientist. An essential feature of any scientific revolution is the successful construction of correspondence principles, providing the way in which the new theory can annex itself to the old, by showing the old to be the limit of the new in some well-defined physical regime.⁴⁸

The paradigm shift model of scientific progress is something, then, that does not resonate with Polkinghorne's experiences as a scientist. He is also suspicious of the Popperian maxim of falsification. The idea that we can never know whether a theory is true but we can be sure when it is false is problematic for Polkinghorne. If the principle of falsification were to be rigidly applied it would result in many theories being stillborn:

....high-level theories, such as special relativity, do not disappear overnight in the face of the first apparently adverse result.⁴⁹

If theories have sufficient explanatory power, then, they should be insulated against the more insignificant falsificatory evidence. What Polkinghorne needs is a methodology that successfully deals with the problems raised by Kuhn and Popper yet provides a platform for his 'bottom-up' approach. He thinks he has found this in the work of two writers: Imre Lakatos and Michael Polanyi.

⁴⁸ Polkinghorne, J. C. (1996) Beyond Science: The Wider Human Context, p. 12. Cambridge: CUP. We look at Kuhn in Chapter Five.

⁴⁹ Polkinghorne, J. C. (1994) Science and Christian Belief: Theological Reflections of a Bottom-Up Thinker, p. 47. London: SPCK. This protective approach to scientific theories is not dissimilar to Kuhn's observations about the endurance of theories in the face of contradictory evidence. Witness his discussion of what constitutes 'normal science': '..that enterprise (normal science) seems an attempt to force nature into the preformed and relatively inflexible box that the paradigm supplies. No part of the aim of normal science is to call forth new sets of phenomena; indeed those that will not fit the box are often not seen at all.' Kuhn, Thomas S. (1970) The Structure of Scientific Revolutions (second edition), p. 24. Chicago: University of Chicago Press. If Kuhn's analysis of 'normal science' is accurate, then paradigms have an inherent immunity to contrary results.

Imre Lakatos

Imre Lakatos set out to develop a methodology that would address the problems that were not solved by Popper and Kuhn. He proposed that the fundamental character of scientific achievements is not defined by ‘...an isolated hypothesis but rather a research programme.’⁵⁰ A research programme is much less of a capricious creature than the model of science given by Popper. It does not fall at the first refutation but consists of an hard-core of primary hypotheses or laws which is in turn surrounded by a ‘...vast ‘protective’ belt of auxiliary hypotheses.’⁵¹ Research programmes also have a heuristic quality, that is, they are able to solve problems and absorb anomalies before they are allowed to threaten the hard-core.

So, Lakatos’ concept of a ‘research programme’ enables scientific theories to live on even in the face of contrary observational evidence. Contradictory evidence is discounted if it does no harm to the hard-core of ‘...non-negotiable concepts, which defines the programme and which will be held on to whilst the programme remains active.’⁵² The auxiliary or secondary hypotheses are mutable and serve to protect the central theory. This breathing space is vital if a promising theory is to be properly investigated. However, there is a danger that the definition of a research programme is so broad as to be vacuous. Whilst the concept captures something of the flexibility of scientific theories, Polkinghorne makes the point that Lakatos’ model is perhaps a

⁵⁰ Lakatos, Imre (1978) The Methodology of Scientific Research: Philosophical Papers, Volume 1, p. 4. Cambridge: CUP.

⁵¹ *Ibid.*, p. 4.

⁵² Polkinghorne, J. C. (1996) Beyond Science: The Wider Human Context, p. 16. Cambridge: CUP.

little too accommodating of weaknesses.⁵³ If a theory stands in need of constant qualification it is difficult to see how it can in any way be of predictive or normative value. A research programme thus defined could provide vindication for any sort of theory, be it astrological or a hypothesis about the colonisation of the earth by extra-terrestrials.

Polkinghorne's perception of scientific practice requires the support of a very subtle and pliable methodology. As a critical realist he is loyal to the view that science discovers and reflects reality rather than constructs it. However, he is not so naïve as to dismiss the personal and creative aspects of scientific endeavour. Science is, after all, something practised by people who will always come to their studies with pre-formed opinions and expectations. What prevents scientific theories from being just arbitrary or instrumental is the dictate of the foundational, bottom-up experience. The role of the personal in scientific research, though, is something that needs further investigation. The philosopher, sociologist and physical chemist, Michael Polanyi has written extensively on the subject and it is to him that we now turn.

Michael Polanyi

⁵³ Polkinghorne, J. C. (1994) Science and Christian Belief: Theological Reflections of a Bottom-Up Thinker, p. 48. London: SPCK. and also in Polkinghorne, J. C. (1996) Beyond Science: The Wider Human Context, p. 17. Cambridge: CUP. Polkinghorne's criticisms of Lakatos are perhaps a little unfair. Whilst his model of Research Programmes is quite flexible it is not clear that it is so remiss as to vindicate all manner of pseudosciences as Polkinghorne suggests. As Lakatos makes clear, it is quite possible to distinguish between a scientific programme and a pseudoscientific or degenerating programme. In 'progressive' or scientific research programmes, theories lead to the discovery of new facts. In 'degenerating' or pseudoscientific programmes, theories are retrospectively contrived to host facts that are already known. To illustrate this he uses the example of Marxist theory. Marxism has been very successful at producing explanations for historical events but it has largely failed to predict any new facts: 'They 'explained' Berlin 1953, Budapest, 1956, Prague 1968. They 'explained' the Russian-Chinese conflict. But their auxiliary hypotheses were all cooked up after the event to protect Marxian theory from the facts. The Newtonian programme led to novel facts; the Marxian lagged behind the facts and has been running fast to catch up with them.' Lakatos, Imre (1978) The Methodology of Scientific Research: Philosophical Papers, Volume 1, p. 6. Cambridge: CUP.

Polkinghorne needs to find a methodology that takes account of the rational aspects of scientific research but also the personal aspect. It is a subtle balancing act. If we ignore the rational side of science then we play into the hands of those advocating the 'Strong Programme' and reduce science to just another sort of human conversation. Science is not a 'detached' activity carried out by machines but is bound up with a uniquely human perspective on the world. It is not just one unified perspective; it is a multiplicity of views. We do not just see the world as generic humans; there are as many vantage points as there are different personalities. As Polkinghorne puts it, 'We do wear "spectacles behind the eyes."' ⁵⁴

Michael Polanyi is a philosopher who, like Polkinghorne, has also had a distinguished career in science. In books such as Personal Knowledge: Towards a Post-Critical Philosophy and his collection of essays, Knowing and Being, he has developed his idiosyncratic methodology. Aside from their similar backgrounds there are other similarities and it is easy to see why Polkinghorne has identified with Polanyi. Something they both share, and this seems to be intimately linked with their experiences as scientists, is their realism. The knowledge which science furnishes is knowledge of an external reality, which is accessible to human understanding. Science 'discovers' what is already out there.

Both writers also share the belief that there is an irreducible personal component to scientific research. Polanyi resolves the apparent oxymoronic character of the concept of 'personal knowledge', with its connotations of arbitrariness, by offering a

⁵⁴ Polkinghorne, J. C. (1996) Serious Talk: Science and Religion in Dialogue, p. 36. London: S.C.M. Actually the 'rational' aspect of science is itself a function of personality. We will return to this point later.

redefinition of knowledge itself. A key concept in Polanyi's epistemology is that of tacit knowing. Our ability to know things about the natural world depends upon various unspecifiable factors.⁵⁵ We are able to accumulate knowledge but we cannot provide a justification for how we are able to do it. To quote Polanyi, '....our knowledge may include far more than we can tell.'⁵⁶ Polanyi stresses the importance of the internalized, hidden structures that have formed us and provide the backdrop against which we can acquire knowledge. The tacit component, then, of personal knowledge lies in the understanding that we do not fully know *how* we can know things.

The unspecifiability of the process by which we thus feel our way forward accounts for the possession by humanity of an immense mental domain, not only of knowledge but of manners, of laws and of the many different arts which man knows how to use, comply with, enjoy or live by without specifiably knowing their contents.⁵⁷

Polanyi compares the process by which, for example, particulars are brought together under a general theory, as 'ineffable'. It cannot be explicated or justified, it can only be practised by the individual. It is difficult to pass over Polanyi's use of the concept of ineffability in this context. At this point his methodology sounds strikingly close to that of a mystic. Mystical experiences are often described as being ineffable because

⁵⁵ In her introduction to Polanyi's book of essays, 'Knowing and Being', Marjorie Greene compares the problem addressed by Polanyi to the epistemological regress introduced by Plato in *Meno*. To paraphrase Plato, 'how will we recognise the knowledge that we seek unless we already know what it is that we are looking for.' Polanyi, Michael (1969) Knowing and Being, p. ix. Chicago: University of Chicago Press.

⁵⁶ *Ibid.*, p. 133.

⁵⁷ Polanyi, Michael (1978) Personal Knowledge: Towards a Post-Critical Philosophy, p. 62. London: Routledge and Kegan Paul.

there is no earthly point of reference for the content of the experience. The knowledge gained by the mystic is, on the one hand, personal but the mystic believes that it is knowledge of an external, objective reality. Whilst they may not be able to 'tell' all that they know the fact remains that they 'know' something and their claims can be assessed by the wider religious community. Armed with this insight, if we return to the original subject of Polanyi's methodology we can see that even scientists must, as Polkinghorne says, '....believe in order to understand.'⁵⁸

In Polanyi's work, Polkinghorne can see an approach that successfully resolves his concerns about scientific methodologies. The various facets of the scientific process: personal judgement, the assent of the scientific community and the ultimate restrictions of an external reality are all held in balance. Polanyi's methodology may describe a more ambiguous science than we have been used to hearing about but Polkinghorne is '....persuaded that the chiaroscuro of the personal knowledge account is entirely in accord with the actual character of scientific activity.'⁵⁹ We are now getting to the heart of Polkinghorne's method and his assumptions. He is a critical realist. Polkinghorne explains:

The view that I am defending is called critical realism. 'Realism', because it claims that science actually does tell us about the physical world, even if it does not do so finally and exhaustively. 'Critical', because it recognizes the subtlety and ultimate unspecifiability of the scientific method.⁶⁰

⁵⁸ Polkinghorne, J. C. (1996) Serious Talk: Science and Religion in Dialogue, p. 36. London: S.C.M.

⁵⁹ Polkinghorne, J. C. (1996) Beyond Science: The Wider Human Context, p. 18. Cambridge: CUP.

⁶⁰ *ibid.*, p. 18.

Polkinghorne's definition of critical realism reveals his debt to the methodologies of Lakatos and Polanyi. Lakatos' concept of a research programme acknowledges the fact, as Polkinghorne sees it, that the interpretation of reality is a subtle affair and theories need time to develop their potential. The influence of Polanyi is evident in Polkinghorne's usage of terminology such as 'unspecifiability'. As a creative and personal act, science is much more flexible and open-ended than it has traditionally been cast. What prevents this analysis of science as 'personal knowledge' from descending into 'subjectivity' or arbitrariness, is the belief in '...the presence of an external reality with which we can establish contact.'⁶¹

It is in the interplay between the creative, interpretative act and the external reality that verisimilitude takes its place. Research programmes and theories must be carefully adjusted to accommodate the intricacies of objective reality. As Polkinghorne acknowledges, however, there is no such thing as a pure experience. All experience is an interpretation in science as much as in any other aspects of human culture. This does not preclude us from saying anything intelligible about the physical world, or even from approaching a verisimilitudinous portrait of this world. Scientists cast their theory at the world with the belief, the conviction even, that there is something out there that is susceptible to our rationality. The hope is that our theories will provide us with an accurate representation of the way the world really is. However, the 'critical' adjunct to a realist strategy is an acknowledgment (or an escape clause) that reality is often more complex than our simple descriptions allow. Polkinghorne argues that the proximate nature of scientific theories is not a flaw but instead it reflects an openness to a supple reality. Polkinghorne's critical realism

⁶¹ Polanyi, Michael (1969) Knowing and Being, p. 133. Chicago: University of Chicago Press.

takes into account both the mercurial nature of 'reality' and the personal nature of scientific endeavour.

Polkinghorne makes great claims for the values of a critical realist approach. On several occasions he states, probably accurately, that it is the approach that most scientists would subscribe to and that it is the most accurate reflection of the actual experience of doing science. He is suspicious of those working in the sociology of science or in the philosophy of science who, as he sees it, misrepresent the experiential aspect of scientific practice. The idea that science is a social construction like any other cultural activity is anathema to Polkinghorne and those who portray it thus are being disingenuous.

Of course, it might seem possible that the physicists were mistaken and the philosophers and sociologists knew best, but I fear that the second-order commentators have paid too little attention to the accounts of their actual experience given by the first-order players. A part of that experience is the occasional critical experiment in which a definite indication from nature clearly points to the attainment of understanding through a particular kind of idea.⁶²

Polkinghorne's claim, that critical realism accords with the experience of doing science and faithfully represents the epistemological status of science, is not uncontroversial. Polkinghorne dismisses those that he disagrees with all too easily and without really engaging with their arguments.⁶³ The commentators from the

⁶² Polkinghorne, J. C. (1996) Beyond Science: The Wider Human Context, p. 9. Cambridge: CUP.

⁶³ Polkinghorne would argue that it is not within his remit to engage with the philosophy of these questions but I shall argue that by failing to engage seriously with these sorts of

sociology of science and the philosophy of science are regularly invoked without engaging with what they say beyond mere caricature.

Critical realism is, in my judgement, a problematic approach and Polkinghorne does not put forward any philosophical support or argument for his acceptance of it. We will be exploring in detail the nature of critical realism. However, just briefly to anticipate, take for example this quote from Polkinghorne:

....Such a stance is usually called 'critical realism'. Its adherents usually explain the differences between the two disciplines in achieving agreed conclusions, with reference to science's being able to deal with a physical world that we transcend and that we can put to the experimental test, while theology is concerned with God, who transcends us and veils his infinite reality from direct contact with our finite being.⁶⁴

There are many that would disagree with Polkinghorne's claim that scientists or indeed anyone is able to transcend the physical world and obtain a 'God's eye view'. Polkinghorne himself has admitted that scientific research is not 'objective' in the strong sense; that is, it is not neutral but theory-driven. However, we are more concerned here with the more general claim that it is possible for an individual (or groups of individuals) to rise above their cultural milieu and engage with the 'language of the natural world'. The universal refrain sung by scientists,

criticisms he is failing to hold up his model to any serious tests of coherence. Ambiguity or a failure to engage with arguments are valid criticisms of any approach.

⁶⁴ Polkinghorne, J. C. (1996) Scientists as Theologians: A Comparison of the Writings of Ian Barbour, Arthur Peacocke and John Polkinghorne, p. 4. London: SPCK.

Polkinghorne tells us, is 'epistemology models ontology'.⁶⁵ Such a view is clearly at odds with pragmatic conceptions of science and also at odds with the position I will be advocating. It is also possible that it does not reflect the actual process by which scientific theories and scientific knowledge are generated. As we shall see, it is not clear that science is doing what Polkinghorne thinks it is doing. Certainly I shall argue that scientific descriptions do not reflect what is really out there since like any other vocabulary it does not represent the world.

In summary, thus far we: (1) Have acknowledged the achievement of Polkinghorne and the Christian scientist-theologians; (2) Have explored how his method shapes his theology and concluded that (a) it is not coherent and (b) it is theologically damaging; (3) Have seen how it is all underpinned by critical realism and sketched preliminary difficulties. However, in order to properly undermine this highly influential approach to science and religion we need to undermine in detail its key assumption, namely critical realism.

⁶⁵ Polkinghorne, J. C. in Richardson, W.M and Wildman, W. J. (Editors) (1996) Religion and Science: History, Method, Dialogue, p. 246. New York: Routledge.

Chapter Two

Michael Devitt: A Defence of Critical Realism

In the opening chapter we looked at the achievement of John Polkinghorne: he has developed a way of looking at the relationship between science and religion that is located firmly in a 'critically realist' philosophical framework. Certain difficulties with this approach were identified. In this chapter we examine the critically realist philosophical framework.

This is a vast area with a range of writers taking contrasting positions. Given that the brief is to look at methodology in science and religion, I propose to make it manageable in the following ways. First there will be a brief survey of the background to realism. Second, I will take probably the best contemporary defender of critical realism, namely Michael Devitt, and explore his position in detail. Finally, we conclude by examining a representation of critical realism that attempts to take the 'post-modern' seriously. For this, I use the work of Ian Markham. The selection has been made with some care: Devitt is a secular philosopher who has provided a robust defence of critical realism: Markham is a philosophical theologian who has taken the 'post-modern' questions seriously. They cover the range and are sufficient for my purpose.

The argument of this chapter is that truth as correspondence, which normally is linked in some way to critical realism and which, in turn, ends up giving 'scientific discourse' primacy over the poetic, mythological, emotive, religious, ethical and

romantic discourses. In other words, critical realism ends up *repeating the error of the logical positivists*. Our principal argument against critical realism, therefore, is the contentious claim that truth as correspondence, as the basis for critical realism is based upon the same disposition as logical positivism. Before we proceed with an examination of critical realism we must, therefore, take a brief look at the history and ideas of logical positivism.

The Legacy of Logical Positivism

In Holding Fast to God⁶⁶ Keith Ward describes the logical positivist movement as virtually extinct and Richard Swinburne in The Coherence of Theism⁶⁷ builds his entire metaphysics on its insignificance. However, I shall show that logical positivist *dispositions* continue to infect critical realism, which leads ultimately to the denigration of religion compared with science. The logical positivist movement itself began in Austria and Germany in the 1920s. The people most closely associated with it were part of the so-called 'Vienna Circle' at the Universities of Vienna and Berlin. Though not officially members themselves, Popper and Wittgenstein were associated (in their nascent careers) with the movement. It was most productive during the period between 1928 and 1934 but it was curtailed in its German and Austrian centres as a result of the emerging National Socialism. However, the core of the Vienna Circle re-established itself in America where it found allies in the Anglo-American

⁶⁶ Ward thought that philosophy could now move away from the anti-metaphysical trend affirmed by the logical positivists: 'It is generally accepted that Logical Positivism was itself a very odd metaphysical view; and it is now scarcely ever maintained in public.' Ward, Keith (1982) Holding Fast to God: A Reply to Don Cupitt, p. 22. London: SPCK.

⁶⁷ Swinburne concludes that even weak verificationism, the fundamental idea of logical positivism as represented in Ayer's Language, Truth and Logic, does not work and that Verificationism generally '...does not provide principles which are of use for settling the character of theological sentences.' Swinburne, Richard (1989) The Coherence of Theism, p. 29. Oxford: Clarendon Press. We will come to Ayer shortly.

analytic tradition. The principle influence of logical positivism here was in the areas of philosophy of science and the increasing mathematically influenced formalism. The strength of logical positivism was beginning to fade by the 1960's when new approaches to the issue of knowledge, specifically the question of scientific knowledge, became popular in works by Quine and Kuhn.⁶⁸

The philosophical starting points for logical positivism were built upon two principles that had been established by Kant. The first was negative, concerned with the limits of human knowledge or rather that which is beyond the limits of human knowledge. The second, a positive proposal about the sort of things that we can count as knowledge. The first involves the condemnation of transcendent metaphysics on the grounds that human understanding becomes bound up with contradictions when it tries to venture towards descriptions of the noumenal 'things in themselves'. The implications of this are that there is such a thing as a transcendent, noumenal realm but that we lack the ability to penetrate to it so it is a statement of fact that asserts '...not that our minds could not conceivably have had the power of penetrating beyond the phenomenal world, but merely that they were in fact devoid of it.'⁶⁹ So, although logical positivists accept the same conclusion as Kant they make their basis for rejecting the possibility of metaphysical knowledge a logical one rather than a factual one. The second prescription about knowledge can be separated into three distinct but not unrelated areas concerned with the status of propositions. The three types of proposition are: 1. Analytic. 2. Synthetic and 3. Emotive. The first two are best dealt with by comparing them with each other and then we shall look at the third.

⁶⁸ Craig, Edward (General Editor) (1998) Routledge Encyclopedia of Philosophy, pp. 789-795. London: Routledge. We look at the Quine-influenced naturalized approach to epistemology in our section on Michael Devitt. Thomas Kuhn's The Structure of Scientific Revolutions is a hugely influential text, not least on the work of Rorty.

⁶⁹ Ayer, A. J. (1936) Language, Truth and Logic, p. 18. London: Victor Gollancz Ltd.

The logical positivist meanings of Analytic and Synthetic propositions are both conceptually derived from Kant but are reoriented by Ayer in a more logical direction.⁷⁰ So, we can call a proposition analytic when ‘...its validity depends solely on the definitions of the symbols it contains, and synthetic when its validity is determined by the facts of experience.’⁷¹ Analytic statements, then, do not provide any information about any matter of fact; they are devoid of any factual content. However, this does not mean that they are worthless or senseless. Instead they are meaningful because they help to clarify the ways in which we use certain linguistic forms and in doing so reveal what may be concealed assertions. The use of tautologies, though, does not give us new knowledge in the sense of providing us with the sort of facts received through empirical investigation. In this sense, analytic statements are *a priori* and therefore, it is not possible to gain *a priori* knowledge of reality. In order to obtain knowledge of reality we must rely upon the empirical evidence of our senses.

In the same way that the concept of the analytic proposition is derived from applying logical criteria rather than ‘psychological’ criteria, the idea of the synthetic proposition is determined from ‘...the rule which determines the literal significance of language.’⁷² Metaphysics cannot be considered ‘knowledge giving’ or meaningful

⁷⁰ Ayer argues that Kant’s original formulation of the distinction between the synthetic and the analytic is too ambiguous and in switching between logical and psychological criteria for deciding which statements lie in which category he generates confusion: ‘Thus his ground for holding that the proposition “7+5=12” is synthetic is, as we have seen, that the subjective intension of “7+5” does not comprise the subjective intension of “12”; whereas his ground for holding that “all bodies are extended” is an analytic proposition is that it rests on the principle of contradiction alone. That is, he employs a psychological criterion in the first of these examples, and a logical criterion in the second, and takes their equivalence for granted.’ Ayer, A. J. (1936) *Language, Truth and Logic*, p. 102. London: Victor Gollancz Ltd.

⁷¹ *Ibid.*, p. 103.

⁷² *Ibid.*, p. 19.

because it does not conform to the rules by which we judge sentences to be literally significant. The criterion by which we are able to make this judgement, is the criterion of *verifiability*:

We say that a sentence is factually significant to any given person, if, and only if, he knows how to verify the proposition which it purports to express – that is, if he knows what observations would lead him, under certain conditions, to accept the proposition as being true, or reject it as being false.⁷³

Whilst we can already see the implications of the verification principle for the breadth of vocabularies that do not satisfy its conditions it is worth noting Ayer's qualifications of the criterion. To begin with he makes the practical distinction between verifiable 'in principle' and 'practical verifiability'. There are many things that we are unable to verify because of practical limitations but we might still be able to say what conditions ought to be satisfied in order for verification to be possible. In such cases there is not 'practical verifiability' but the proposition is verifiable 'in principle'.⁷⁴ Ayer makes a further distinction between the "strong" and the "weak" sense of verifiability. So a proposition is verifiable in the strong sense if and only if its truth can be conclusively proven through experience. It is verifiable in the weak sense '...if it is possible for experience to render it probable.'⁷⁵ In this way it

⁷³ Ibid., pp. 19-20.

⁷⁴ Ayer's example of verifiability in principle is the rather poignant proposition concerning mountains on the farther side of the moon: 'No rocket has yet been invented which would enable me to go and look at the farther side of the moon, so that I am unable to decide the matter by actual investigation. But I do know what observations would decide it for me, if, as is theoretically conceivable, I were once in a position to make them.' Ayer, A. J. (1936) *Language, Truth and Logic*, p. 21. London: Victor Gollancz Ltd.

⁷⁵ Ibid., p. 22. Somewhere between the logical positivists' rejection of strong verification and the adoption of weak verification came the attempt to use the criterion of 'strong falsification'. In order for a statement to be falsifiable 'in principle' we must be able to conceive of a relevant observation-statement. However, as Swinburne notes, the problem with this is that certain

becomes possible to include general propositions, propositions about the past, but, most importantly, it excludes assertions that contradict the reality of the world as revealed through sense experience.⁷⁶ The implications for metaphysics generally and theism specifically are clear. In order for a statement to be meaningful we have to be able to say what sense-experiences could provide the necessary verification or falsification. We know how to do this when it comes to simple objects like tables or chairs but when it comes to statements about God and God's nature we are straying into the realms of meaninglessness, as defined by logical positivism:

For whereas the sentence "There exists here a yellow-coloured material thing" expresses a genuine synthetic proposition which could be empirically verified, the sentence "There exists a transcendent god" has, as we have seen, no literal significance.⁷⁷

Before we proceed to the criticisms of verificationism we should briefly introduce the third type of proposition identified by Ayer, namely 'emotive' propositions. These describe attitudes and dispositions and include the realm of aesthetics and ethical judgements that are classed as merely 'expressive' rather than 'factual'. Emotive utterances serve to both express and to provoke feeling and action but they cannot be said to be statements with factual intent because they cannot be formulated into propositions that are empirically testable. The class of emotive utterances is really a

sorts of statement, specifically, existential statements, are factual in intent even if it may not be possible to produce a satisfactory scenario whereby they might be falsified. See Swinburne, Richard (1989) *The Coherence of Theism*, pp. 24-25. Oxford: Clarendon Press.

⁷⁶ Metaphysics, so the logical positivist argument goes, is not based upon an empirical hypothesis but neither is it an *a priori* analytic proposition: 'We may accordingly define a metaphysical sentence as a sentence which purports to express a genuine proposition, but does, in fact, express neither a tautology nor an empirical hypothesis. And as tautologies and empirical hypotheses form the entire class of significant propositions, we are justified in concluding that all metaphysical assertions are nonsensical.' *Ibid.*, p. 32.

⁷⁷ *Ibid.*, p. 182

dumping ground for all human vocabularies that do not satisfy the verification criterion or are not analytic, tautological statements.

The debate that followed the proposals of the logical positivist movement was seemingly endless and culminated in questions about the status of logical positivism itself. As we have seen, their vindication of the cognitive status of the experimental sciences came at a heavy cost: all vocabularies failing to meet the standards of verification were to be labelled 'meaningless'. However, the discussion about the legitimacy of logical positivism illuminated some mortal difficulties with its thesis. It transpired that there is a route out of this tightly knit, suffocating community of meaningful discourse and the clues are to be found in the logical positivists' (specifically Ayer in this case) qualification that for observation-statements to be valid they should be verifiable 'in principle'. The idea that an observation can be made 'in principle' describes a logically possible state of affairs. However, the suggestion is that we can agree about what constitutes observable, logically possible states of affairs. This is highly contentious. If we consider the sort of things that people have claimed to be observable 'in principle' such as 'the future', 'God' and 'guardian angels' we can see that we are far from a consensus on the issue.⁷⁸ Ward makes the point that the weak verificationists' addition of the verifiable 'in principle' clause, is the terminal objection to logical positivism because it makes the principle so broad as to exclude nothing:

If I were a fly, I could have a fly's experiences; if I were an angel, I could have an angel's experiences; and if I were God, I could have God's experiences. So now

⁷⁸ For more on the question of logical possibility, see, Swinburne, Richard (1989) The Coherence of Theism, pp. 25-27. Oxford: Clarendon Press.

the existence of God, who is an omniscient being, becomes verifiable in principle, since if I were God, I would be able to check the truth of my own existence and omniscience. It is quite alright to talk about supernatural beings; all we need is supernatural organs of perception. That is not at all what the Positivists wanted. But once they start bringing in that phrase 'in principle', they cannot stop it.⁷⁹

In this light it seems that the verification principle has less and less application because it does not seem to be able to help us distinguish between factual and meaningless statements. The lack of a consensus about the use of the term 'observation' means that, short of deciding upon an arbitrarily restrictive usage of the term, we cannot limit the class of statements that are observable in principle and therefore, factual in content.⁸⁰

The most familiar and ironically dramatic criticism of logical positivism comes from analysing the verification principle from within the logical positivists' own taxonomy of types of proposition. The principle that statements can only be meaningful if they are tautologies or if they can be clarified through sense experience is neither an analytic nor a synthetic proposition. Therefore, it falls short of the logical positivist criterion for meaningfulness and so it cannot be considered a factual statement. Logical positivism is self-destructive because it ends up falling into the very category of propositions that it has excluded from sharing in the resource of 'fact'. Logical positivism ends up being another unverifiable metaphysical system. The positivists' response that the principle should be considered a 'recommendation' rather than a factual statement has been harshly dealt with by critics such as Ward whose

⁷⁹ Ward, Keith (1982) *Holding Fast to God: A Reply to Don Cupitt*, p. 18. London: SPCK.

⁸⁰ See, Swinburne, Richard (1989) *The Coherence of Theism*, pp. 26-29. Oxford: Clarendon Press.

characteristic response sums up the redundancy of their position: ‘...if that is all it is, we can decline the recommendation with thanks...’⁸¹

So logical positivism as an explicit position fell into disrepair. The taxonomy of factual statements became unstable and was redistributed amongst a broader selection of types of proposition. The perception of science by the 1960’s had changed and logical positivism was out of step with the new philosophy of science being propounded by Thomas Kuhn. However, for my purposes the critical point is that the *instinct* or disposition of logical positivism remains and can still be found as an implicit project in contemporary critical realism. The positivist proposal that we divide up the world of human vocabularies into those that can be said to represent reality and those that express merely human impulses is still intact, albeit in a far more submerged and rarefied form. What is underpinning logical positivism is the idea that science is the paradigm of knowledge and religion, if it is to be meaningful, must try and match its methodology. Those that affirm critical realism implicitly accept this. This claim clearly needs careful analysis which will be done as we look in detail at an arch defender of critical realism who is particularly relevant to our earlier discussion of Polkinghorne *et al* because of his affirmation of science as a grounding for epistemology, Michael Devitt.

Michael Devitt presents one of the most eloquent and relevant (to the current thesis) expositions of critical realism. We shall see how the starting point for his evolutionary epistemology, the recognition of science as the ground of epistemology,

⁸¹ Ward, Keith (1982) Holding Fast to God: A Reply to Don Cupitt, p. 16. London: SPCK.

reflects the same Logical Positivist Disposition that we see across the range of critical realist adherents.

Michael Devitt

Devitt distinguishes between Common-Sense Realism and Scientific Realism.

Common-Sense Realism is the 'obvious' realism about the world that is accepted by most lay people, certainly in Western cultures:

From an early age we come to believe that such objects as stones, cats and trees exist. Further we believe that these objects exist even when we are not perceiving them, and that they do not depend for their existence on our opinions nor on anything mental. These beliefs about ordinary objects are central to our whole way of viewing the world, to our conceptual scheme.⁸²

So far this is clear enough. One of the commonest arguments for realism is that it is the metaphysical position that 'makes the most sense' and in lieu of any convincing alternatives it is the position that we should maintain. Obviously the status and weight that we should give to this argument require careful thought. It is not strictly a positive argument and it remains a moot point whether realism is the best position to adopt. It can end up being circular. It seems as if attempts to vindicate realism using any type of inductive technique always require us to already act as if realism were already true. Language, itself, is already set up in such a way that we implicitly talk about things as if they were 'out there'. The 'proof' of realism is not really inductive

⁸² Devitt, Michael (1984) Realism and Truth, p. 47. Princeton: Princeton University Press.

after all, but is hard-wired, *a priori*, into language. It is far neater to accept that the world appears the way that it is because it actually is so than to subscribe to a solipsistic scepticism. The problem with all this is that it seems to ‘beg the question’: language may have an appearance of assuming knowledge of an external reality but, the question remains, is it justified?

A more positive argument put forward by Devitt, previously suggested by Quine, proposes a ‘naturalized epistemology’. This approach attempts to justify knowledge without rising to the sceptical challenge to provide an ultimate standard for it. Good science, Devitt maintains, shows us ‘...that if knowledge is to be gathered we must eliminate implausible hypotheses without being able, ultimately, to justify that elimination. It shows us that there is always an (empirical) possibility of error with any (normal) knowledge claim.’⁸³ If we put to one side the issue of certainty and instead focus upon how we come to know certain things. A naturalized epistemology is in accord with Devitt’s aim to displace the importance of epistemological questions by first acknowledging the metaphysical issue. There are two aspects to the subsequent process. If we start from a position of metaphysical realism we have just to explain how we come to form opinions about the world (descriptive aspect) and what makes these opinions knowledge (normative aspect).⁸⁴ We interpret the sensory experience, that the world provides, in a certain way and some ways of interpretation are more effective than others. It is at this point that the analysis becomes normative, when we decide which epistemology is a more reliable guide to truth. The epistemological issue in turn, is reduced to an empirical one. Scientific ways of thinking have in some way ‘evolved’ in the Darwinian sense because they are

⁸³ *Ibid.*, p. 63.

⁸⁴ *Ibid.*, p. 64-65.

effective ways of getting things done. In this respect scepticism fails because the Cartesian belief in a malevolent demon does not really get us anywhere. This clearly does not guarantee truth, merely empirical adequacy.⁸⁵

As we shall see, Devitt's Naturalized Epistemology shares some characteristics with Nicholas Rescher's system of Pragmatic Idealism in that they both *start* with a metaphysical position (realism) and then seek to evaluate the effectiveness of the position as a practice.⁸⁶ Devitt's decision to adopt realism, however, is not a pragmatic one but is informed by the (relatively trite) observation that we have evolved certain ways of thinking. Not all of our beliefs or procedures are as effective or as rational as others. The task of evaluating different beliefs is, as we have seen, a normative one that prescribes which beliefs are good and worthy of being maintained. A good belief is one that will also lead to truth.

We should pause momentarily to consider the relationship between scientific realism and common-sense realism. Devitt's argument for the latter places great emphasis on the primacy of science and of epistemology naturalized. However, it is not clear that scientific realism and common sense realism are entirely compatible. Devitt acknowledges the traditional divergence between the two forms of realism when it comes to the subject of secondary qualities. Clearly these qualities are not immune to certain spheres of scientific inquiry - as Devitt notes, 'It cannot be claimed that science as a whole does not countenance these qualities: biology and psychology

⁸⁵ Descartes introduces the idea of a malicious demon as part of his method of metaphysical doubt in the First Meditation. See Descartes, Rene (Translator, Cottingham, John) (1991) *Meditations on First Philosophy* Cambridge: Cambridge University Press.

⁸⁶ We look at Nicholas Rescher in Chapter Four.

countenances them.’⁸⁷ From a purely physicalist perspective, though, the world appears to be devoid of these secondary qualities. Devitt argues that this demonstrates that our common-sense view of secondary qualities is flawed. To escape from a damaging objectivism, Devitt prefers to posit a functionalist account of mental properties which does not identify one particular arrangement but allows for many. In this way it becomes possible for the secondary quality of say, redness, to be instantiated in a number of possible arrangements.⁸⁸ In the Lockean sense, secondary qualities are powers, that objects have, to produce sensations in us. These powers are not to be identified with a particular, objectified arrangement, within the object, because this would lead to the tension already identified between scientific and common-sense realism. The functionalist approach explains how secondary qualities can co-exist with scientific realism.

It is still not clear why we should accept a naturalized epistemology. Devitt, like Quine, wants to replace epistemology with science and empiricism. Instead of providing justification for knowledge we are left with straightforward empiricism. Science is acknowledged as the normative starting point for thinking about the world. There are clearly problems with this. There is no good reason for taking science as the given framework for conceptualising the world. It could be argued, and many scientific realists would argue, that sound reasons can be given for adopting science as a way of interpreting the world.⁸⁹ As with any epistemological scheme, or even with a pragmatic approach, there is always a need for reasons to be provided for taking up a particular perspective. It is not enough to say simply that science is a given. We could equally put forward astrology as a valid starting point. Science can be justified

⁸⁷ *Ibid.*, p. 69.

⁸⁸ *Ibid.*, p. 70.

⁸⁹ We look at Richard Dawkins, a good example of a scientific realist in Chapter Six.

on rational grounds according to criteria that are not strictly a part of the scientific method. There are many reasons why we should not adopt a naturalized epistemology not least because one of its pivotal points, the relationship between science and genetic survival success, begins to look very shaky when the pursuit of truth enables us to destroy our own planet. Similarly, the existence of such human qualities as altruism and the ability of 'false beliefs' (in the eyes of evolutionary psychologists at least), such as theism, which promote the capacity of humans to survive, also calls into question the scientific grounds of knowledge. Now we are coming to my central claim: The adoption of science as a grounding principle for human knowledge or meaningful discourse is disturbingly close to the same disposition that drove the logical positivists. Science is being chosen as the model of human knowledge. We will be looking at Rorty in more detail later in the thesis. However, for the purposes of understanding Devitt, the comparison with Rorty is helpful. Indeed, perhaps the most useful way of illuminating the flaws in Devitt's realism is to set it against a Rortian Model. In attacking Rorty, Devitt asserts that Rorty's antipathy towards correspondence theories of truth derives from the associated problem of scepticism. The idea that mental representations mirror reality is, as we have seen, vulnerable to all sorts of sceptical attack and the defence usually offered involves a retreat into some sort of *a priori* foundationalism or an attempt to use philosophy to underwrite our claims to knowledge. Rorty's rejection of the correspondence model takes epistemology with it and replaces it with hermeneutics and conversation. Whilst Devitt, as a naturalist thinker, is clearly in tune with Rorty's rejection of the

problem of scepticism he makes two objections to Rorty's position.⁹⁰ Devitt argues that Rorty's rejection of the correspondence theory is unjustified because

'...surely there is no necessary connection between semantics and epistemology....We can abandon the sceptical problematic because we see 'the quest for certainty' as essentially hopeless and because we think that there is no place in a scientific world-view for the *a priori* epistemology implicit in such a search. Furthermore, Once we are free of the problematic, it is an open, empirical question whether a correspondence theory of truth has a place in the total world-view. I think that it has.'⁹¹

Devitt's second objection concerns Rorty's rejection of *a priori* epistemology and scepticism in favour of hermeneutics. Devitt obviously wants to retain the idea of a progressive and constructive philosophy - naturalized epistemology. He sees no reason why we should be led into a 'philosophy as therapy' approach. Firstly, though, let us deal with the role that the Correspondence Theory of Truth plays in Devitt's thought. Devitt is committed to what he terms a 'contemporary correspondence notion'.⁹²

Devitt, aware of the problems with the 'classical' formulation of correspondence, introduces us to his own 'contemporary correspondence notion' which we shall quote here because of its importance to his thesis:

⁹⁰ As we have seen Devitt displaces the problem of scepticism by simply saying that it is not important. For him the job of Epistemology is not to establish rational foundations for knowledge. Knowledge becomes scientific which in turn is explained by processes such as natural selection (itself a scientific concept). Devitt's realism is apparently of the 'pulling oneself up by one's bootstraps variety'.

⁹¹ Devitt, Michael (1991) Realism and Truth (Second Edition), p. 204. Blackwell: Oxford.

⁹² *Ibid.*, p. 28.

Consider a true sentence with a very simple structure: the predication ‘a is F’. This sentence is true in virtue of the fact that there exists an object which ‘a’ designates and which is among the objects ‘F’ applies to. So this sentence is true because it has a predicational structure containing words standing in certain referential relations to parts of reality and because of the way that reality is. Provided that the reality is objective and mind-independent, then the sentence is *correspondence*-true: its truth has all the features that we have just abstracted from classical discussions. Yet this truth does not require any of the mysterious entities and relations of those discussions. The only entities we need are the familiar ones we already have, objects of one sort or another; and the only relations we need are ones of reference between the parts of the sentence and the objects.⁹³

The distinction Devitt makes between classical correspondence and contemporary correspondence is a subtle one. Instead of ‘facts’, which, post-Tractatus, are no longer acceptable ways of dividing up and characterising the world, we now have the more neutral ‘objects’ in a mind-independent world. This dispenses with all the stigma and question-begging generated by the troublesome ‘facts’.

Devitt thinks that scepticism can be overcome by adopting a naturalized epistemology. This approach accepts the sceptic’s point that we cannot find certain grounds for knowledge through the use of *a priori* reasoning or indeed any sort of foundationalism. So, as we have seen, the first aspect of naturalized epistemology is a

⁹³ *Ibid.*, p. 28.

critical one. The constructive aspect, as laid out by Quine, proposes that knowledge be investigated through the medium of natural science. Science is taken as an *a posteriori* 'given', that is, a way of showing how beliefs can become knowledge situated within an evolutionary structure of natural selection. We accept science as a ground for knowledge because it has proven to be a successful survival strategy. While it is not clear where this leaves other enduring and therefore successful evolutionary strategies, such as religion (why not make this a basis for the exploration of knowledge?), the question of which procedures are good is identified as an empirical one.⁹⁴ However, the ongoing problem with naturalized epistemology is the question of justification. On the one hand there is the idea of a neutral, causal relationship between the world and scientific knowledge and on the other hand there is the apparent quantum leap to issues of justification. As we have already noted it is not enough for an epistemology to show how we gain knowledge about the world, there is the far more important issue of justification at stake. Science itself cannot supply this justification internally because it is supposed to be merely descriptive and a-metaphysical. Science just *is*. In practice Science is not the starting point but it is always in the process of making normative judgements about what is to count as justified belief and hence knowledge.⁹⁵ Without some sort of metaphysical

⁹⁴ Here it would seem pertinent to remind ourselves of the logical positivist movement and the nature of their complete collapse. They too opted for a definition of truth that proved to be not simply unjustifiable but inevitably self-defeating. Devitt may not be seeking justification here but he certainly feels justified in proposing science as an arbiter of knowledge. The Logical Positivist Dispositions can be found seeping out from all manifestations of critical realism.

⁹⁵ As we have already seen if this was not the case then there is no reason why we should not take religion or perhaps necromancy as our starting point. The point is that it would be intellectually more honest if we accepted a pragmatic, relativists position of the kind proposed by Rorty. Here, there is no question of truth being anything more than unforced agreement amongst a community of language users.

assumptions about what science does there is a great danger that science will fall by its own standards in much the same way as the logical positivist movement did.⁹⁶ As Devitt is fully aware there are alternative options available if realism is to be rescued from scepticism. There is the foundationalist route, taken by Descartes, where the sceptical problem is accepted and, in its defence, realism seeks some sort of basic building block of knowledge that is unquestionable or immune from scepticism. This option has, it could be argued, at least in the current philosophical climate, been closed off. Another option is to take the Kantian route, itself a sort of foundationalism though quite different from the latter route, which accepts that reality is largely unavailable to us save through our own interpretative apparatus. Reality in this sense is something that is co-constructed by ourselves.⁹⁷ A third more outré path involves the acceptance of Descartes' *reductio ad absurdum* and leads to a form of solipsism that leaves one doubting everything but the belief that one is currently experiencing.⁹⁸ The final option, and the course that Devitt takes, is the Quinian influenced rejection of foundationalist epistemology and the Kantian *a priori*, and the acceptance of an epistemology '... from *within* science.'⁹⁹ (my italics)

⁹⁶ If as naturalized epistemologists we think that science and empiricism are the only routes to knowledge then we are committed to accept the findings of science. If we imagine a scenario in which scientific methods discover that necromancy can be empirically demonstrated or more gravely, that nature is not material in its constitution then clearly science is in danger of being overridden. This suggests that there must be some sort of mechanism in place that justifies or normalises science that *is not itself* part of scientific practice. In other words some sort of metaphysic.

⁹⁷ For more on this alternative see Chapter Four on Nicholas Rescher.

⁹⁸ Devitt, Michael (1991) *Realism and Truth* (Second Edition), p. 64. Blackwell: Oxford.

⁹⁹ *Ibid.*, p. 64. It is not clear how science is able to generate its own epistemology given, as we have already observed, that any sort of value judgements or justification generally is not something that science is able to provide. Statements of belief of this nature must come from some external source - a metaphysical principle, perhaps. There are similarities here with the tensions that eventually proved to be the undoing of logical positivism. See my discussion of logical positivism earlier this chapter.

At the moment it seems that we are in danger of straying from the question of truth into that of realism but that is intentional because it reaffirms the strong bond that exists between the two concepts:¹⁰⁰

The argument for Common-Sense Realism starts from folk theory and scientific theory. These theories posit many observable physical entities. By and large we are confident of these posits. Nevertheless, we are cautious, allowing for error: we commit ourselves to most of those entities. Our folk theory, including some folk epistemology, gives us a view of those entities: they exist objectively and independently of the mental. That is how we arrive at our Realism.¹⁰¹

Realism is affirmed because it is the basis of our 'folk' theories, our common-sense ways of thinking about the world. The 'proof' for realism comes from three main sources, although, none of them alone are sufficient grounds for accepting realism as the best available theory and taken together they form a dubious alliance. The first argument for realism is more a negative approach rather than a celebration of its merits. Devitt argues that no viable alternative has been put forward to replace it. In other words until we find a better way of conceiving the relationship between our beliefs and the world we should stick with the dominant theory. If we accept the first statement that there is no valid alternative to realism then perhaps we may be justified

¹⁰⁰ Actually, Devitt argues that the two concepts are not connected and more importantly that realism does not entail any specific doctrine of truth: '...a person could, without inconsistency, be a Realist without having any notion of truth in his theory.' Devitt, Michael (1991) *Realism and Truth* (Second Edition), p. 41. Blackwell: Oxford.

¹⁰¹ Devitt, Michael (1991) *Realism and Truth* (Second Edition), p. 73. Blackwell: Oxford. This is a rather laboured way of saying that the common-sense way in which we think about the world is correct and coupled with science it provides a reasonably accurate description of the way things really are. The cautious note in Devitt's definition of realism recalls the sort of critical realism we encountered in our section on John Polkinghorne.

in following the predominant folk theory. This ties in with Devitt's naturalist sympathies and gives the attractive impression of an 'organic' approach to thinking. Metaphysics here, seems to be sidelined rather than being the driving force behind things.¹⁰² However, as we have seen, there are problems with Devitt's version of realism because of its (arbitrary) adoption of science as the basis for naturalized epistemology. Science is not a basic, naturalistic phenomenon but a highly specialised, contrived approach to looking at the world which ultimately falls short of its own demands on knowledge. Before we look at the validity of a non-representational theory, such as that proposed by Rorty, as an alternative to realism, we will briefly look again at the pedigree of naturalized epistemology and its importance to Devitt's realism.

Devitt writes:

Having dismissed the quest for certainty, for rock-hard foundations and for ultimate justification, what then remains for epistemology? It is left with the task of *explaining* our coming to know science (and common sense). There are two parts to this explanation, a descriptive part and a normative part. The descriptive part explains how as a matter of fact we form our opinions. The normative part explains what makes these opinions knowledge (in so far as they are). We seek a scientific explanation of our knowing science. The epistemic relation between humans and the world itself becomes the object of scientific study. Epistemology becomes naturalized.¹⁰³

¹⁰² In our section on Rescher (see Chapter Four) we see how the realist hypothesis is 'pragmatically' assumed in order to get us to a point where we could then retroactively, as it were, prove that the best thesis to start with is the realist one.

¹⁰³ Devitt, Michael (1991) Realism and Truth (Second Edition), p. 76. Blackwell: Oxford.

Naturalism can be characterised as a response to the problem of Cartesian foundationalism and the attendant problem of scepticism which Descartes never satisfactorily resolved. Descartes' epistemology was of course his 'first philosophy' and it preceded any sort of empirical considerations because it was empiricism and the information received via the senses which, for Descartes, supplied the doubt that was to be overcome:

Some years ago I was struck by the large number of falsehoods that I had accepted as true in my childhood, and by the highly doubtful nature of the whole edifice that I had subsequently based on them. I realized that it was necessary, once in the course of my life, to demolish everything completely and start again right from the foundations if I wanted to establish anything at all in the sciences that was stable and likely to last.¹⁰⁴

The Cartesian method, then, is to apply scepticism to all spheres of knowledge until one arrives at a point where doubt is no longer applicable. This is the point (the *cogito*, knowledge of the self) where Descartes built his epistemology. Only then is it possible to tentatively seek to reify external spheres of knowledge. We have already mentioned the criticisms of Descartes' approach but it is worth noting the contrast between this sort of foundationalist approach to epistemology and the model of epistemology proposed by Devitt. Descartes needs epistemology as an *a priori* to legitimate any subsequent knowledge claims. For Devitt, epistemology is already ingrained as part of the empirical process – it is a part of rather than an external

¹⁰⁴ Descartes, René (Translator, Cottingham, John) (1991) Meditations On First Philosophy, p.12. Cambridge: Cambridge University Press.

supporter of, for example, the scientific method.¹⁰⁵ This reflects a necessary shift in the use of epistemology to escape from the foundationalist and sceptical trap.

Epistemology in this sense is no longer an account of the concept of knowledge but of a specific natural phenomenon, that is, knowledge.¹⁰⁶

Naturalized Epistemology attempts to illuminate the divide that has existed between philosophy and science. Where Descartes tried to find some justification for scientific knowledge in philosophical first principles, Devitt sees epistemology as a fundamentally empirical and hence scientific enterprise. Again, aside from the obvious benefits of escaping from the inherent problems of foundationalism it is still unclear how naturalism facilitates realism. Realism is a metaphysical doctrine and is therefore an attempt to stand outside the vagaries of human culture, human common sense and other creations such as science and say how things really are. Devitt's epistemology is wrapped up in his metaphysics – he assumes realism to be correct

¹⁰⁵ One of the things Descartes was criticised for was this attempt to achieve a God's-eye view of things. The idea that there is such a thing as 'pure thought' or knowledge that is not tainted by culture or shaped by language has fallen out of favour at least since Kant introduced the idea of the 'categories' and demonstrated the extent to which knowledge is shaped and determined by our mental structures. Descartes is not justified in making the *cogito* the foundation of knowledge. It could be argued, however, that Devitt is failing to recognise the same problems that haunt his own 'take' on epistemology. In discussing Kant's model of *a priori* concepts Devitt tries to explain how he as a naturalized epistemologist differs in his perspective on the knowledge process: "The naturalized epistemologist agrees with Kant that there are two elements to knowledge and that one is experiential. In describing the other element, he prefers talk of innate predispositions to the Kantian talk of *a priori* concepts. Where he differs sharply from Kant is that he does not move from this view of the knowledge process to a view of what is known. The move is in the reverse direction: we use our view of what is known to arrive at our view of the knowledge process. In this way metaphysics is put before epistemology, and the latter becomes, like everything else, empirical." Devitt, Michael (1991) Realism and Truth (Second Edition), p. 79. Blackwell: Oxford. The idea that metaphysics comes before epistemology is of course in keeping with Devitt's desire to simplify the realism issue but it creates its own problems. At least Descartes' system provided criteria for knowledge. An epistemology that is tied up with the 'thing known' and the metaphysics that drives it is not in a position to make any kind of discretionary judgements. Even if Devitt protests that he is more concerned with naturalistic explanations than providing rationales the point remains that there is literally no justification for making science the 'natural' medium of knowledge.

¹⁰⁶ As Kornblith points out, not all naturalists will agree with this sort of definition but certainly it represents the sort of naturalism that Devitt has in mind. See Kornblith, Hilary 'In Defense of a Naturalized Epistemology' in Greco, John and Sosa, Ernest (1999) The Blackwell Guide to Epistemology, pp. 158-169.

because it seems to explain the existence of scientific knowledge. Similarly the posits of scientific theories exist ‘...objectively and independently of the mental.’¹⁰⁷ The ‘posits’ that Devitt refers to include the so-called ‘unobservable’ entities of science which are held to be objectively real because ‘...By supposing they exist, we can give good explanations of the behaviour and characteristics of observed entities, behaviour and characteristics which would otherwise remain completely inexplicable.’¹⁰⁸

Devitt’s realism, as driven by his epistemological naturalism and reliance upon science as the chief knowledge-giving medium, has its own obsolescence built in. Realism in this sense becomes more a judgement about science rather than the broader metaphysical question about reality. What is real, what counts as knowledge is what contemporary science tells us. Actually the definition is, technically, narrower and should be what *current* scientific theories tell us.¹⁰⁹ This needs to be considered in more detail.

¹⁰⁷ Devitt, Michael (1991) *Realism and Truth* (Second Edition), p. 76. Blackwell: Oxford.

¹⁰⁸ *Ibid.*, p. 108. Devitt’s Scientific Realism needs further clarification. He is clearly against the sort of scientific methodology proposed by Kuhn and does not want to see new theories generating entirely new ontology. However there are problems associated with the objectification of those ‘unobservables’ described in theories. The sort of critical realism espoused by Polkinghorne, for example, attempts to build some flexibility into science’s methodology that maintains the idea of a progression towards greater truth and allows for a refinement of theories and associated changes in our descriptions of unobservables. It is not they (the unobservables) that change, we just become better at describing them. The problem for Devitt is encapsulated thus ‘...What quantifier should we use to state realism? We certainly do not want to say that *all* common-sense and scientific entities exist. Examples like flying saucers and phlogiston show that such a doctrine would certainly be false. Not only would it be false; it would be unnecessary. It is no skin off the nose of the realist that we occasionally make mistaken posits. We need to be more cautious. However, it is not enough to say that only *some* common-sense and scientific physical entities exist. The realism that is worth fighting for holds that we are *more or less* right in the physical entities we posit. It is committed to the existence of *most* of those entities.’ *Ibid.*, p. 18. Scientific realism for Devitt, then, is a realism of the moment. It is a token realism. What is true now may not be true in the past or the future but this should not be our concern (as realists) anyway.

¹⁰⁹ ‘I decided to defend a realism committed to the entities posited by science and common sense – Scientific Realism (‘entity realism’) – but not a realism committed to our theories being right about those entities – Strong Scientific Realism (‘theory realism’).’ *Ibid.*, p. 109. But, ‘... (the) argument for Scientific Realism depends on our theories of unobservables being right (or largely so); observed phenomena are explained not by the mere existence of, say, electrons, but by electrons being the way our theory says they are.’ *Ibid.*, p. 109. Devitt here illustrates the problems with his own position. Surely it would be more coherent for Devitt to follow something more akin to a Kuhnian route which allows for theory change and

If we, as good naturalized epistemologists, accept that what empirical science tells us should be counted as knowledge, then we must be wary when the entities described by scientific theories undergo changes in character. If we are committed to an 'entity realism' in science, as Devitt surely is, then we accept that entities actually are as current science describes them.¹¹⁰ Remember Devitt's realism, whilst not an all-embracing 'strong realism', does believe in objects having independent existence. There is, also, the related notion of verisimilitude which we will dwell upon for the moment.

We have already looked at the concept of verisimilitude in Chapter One. The popular view of progress amongst realist scientists involves the idea of some sort of convergence upon truth or, more strongly, increasing verisimilitude to theories. As Devitt himself defines it '...T' is typically closer to the truth than T'.¹¹¹ However, Devitt argues that it is wrong to equate any sort of convergence thesis with scientific realism because '...If there is any relation between realism and convergence, it is an evidential one, which must be distinguished from a constitutive one.'¹¹²

subsequent ontological redefinition of the objects (electrons for example). This would take us on a route to the sort of pragmatic model advanced by this thesis.

¹¹⁰ Devitt might interject here that we are conflating the issue of realism with that of truth, specifically the correspondence theory of truth. Devitt may think that we do not need a metaphysical underpinning for science but this does not necessarily reflect the view of practising realist scientists. Also Devitt has smuggled truth into the classification of realism that he subscribes to. If he wanted to sideline truth more effectively he could have opted for the sort of weak realism that says there is 'something' out there but we cannot say what it is. Instead he is committed to a realism that makes statements about the entities (the 'something') that is out there. For someone like Richard Dawkins or even a qualified realist like John Polkinghorne there is no question that correspondence truth is intertwined with that of realism. This is the dogma of the latter-day priesthood of science: something can only be classed as true if it can be shown (proven) to exist independently and objectively 'out there'. See for example: Rorty, Richard (1999) *Philosophy and Social Hope*, pp. 156-157. London: Penguin.

¹¹¹ Devitt, Michael (1991) *Realism and Truth* (Second Edition), p. 124. Blackwell: Oxford.

¹¹² *Ibid.*, p. 124. This distinction between 'constitutive' and 'evidential' issues relates to Devitt's first maxim for exploring the issue of realism which serves to distinguish between

The general point about realism to be made here is the assumption by realist scientists that new theories supersede old ones because they are closer to representing the actual state of affairs. The pragmatist rejoinder to this argument, prefers to think of the new theory as offering greater scope for prediction and control rather than in its ability to better represent reality. However, in keeping with his own 'Maxim 1' Devitt is concerned that we do not stray from the metaphysical issue about realism into questions about epistemology.¹¹³ Devitt makes the point that realism does not depend upon any sort of convergence upon truth except in an evidential capacity. Convergence is not to be construed as something that is almost synonymous with realism. This is a subtle point that needs drawing out carefully. First we need to identify the distinction that Devitt makes between Simple Convergence and Verisimilitude:

Whereas Simple Convergence depends only on increasing truth about a given set of entities, Increasing Verisimilitude requires increasing truth *content* (and decreasing falsity content) in some science.¹¹⁴

what realism *is* and what is considered to be an *argument for* realism: 'Maxim 1 In considering realism, distinguish the constitutive and evidential issues.' Ibid., p. 3.

¹¹³ Devitt's definition of 'Maxim 3' is interesting here: 'Settle the realism issue before any epistemic or semantic issue.' Ibid., p. 4. We can see here why Devitt wants to push convergence and verisimilitude to the sidelines - because they introduce too much content into his unquestioning naturalism. If he accepts that knowledge is a part of the realist thesis then he is required to find some justificatory evidence. As it is he is happy to accept the givenness of science and physicalism despite the potentially disastrous effects that such a pursuit might have. See above, 'Scientific Realism and Common-Sense Realism'. A telling qualification to Maxim 3 reveals the problem faced by Devitt and arguably undermines his own thesis: 'This maxim is oversimplified because realism, though largely metaphysical, *is* a little bit epistemic and semantic: the world must be independent of our knowledge of it and of our capacity to refer to it. So at least that much epistemology and semantics must be settled to settle realism.' Ibid., p. 4.

¹¹⁴ Ibid., p. 125.

If we look at Simple Convergence from the perspective of Scientific Realism or Correspondence Truth then we can see that it is concerned with the progressive status of theories about particular sets of entities. If we take, as Devitt does, T to be a theory and 'T to be the usurping theory, then we can say that both theories 'refer' to the same entities but 'T represents an increase in truth. Devitt suggests that the concept of Increasing Verisimilitude is more problematic because '...Unfortunately, a large and very technical literature shows that assigning degrees of truth and comparing truth (falsity) contents are much more difficult than at first appears.'¹¹⁵ If we focus upon Simple Convergence one of the questions to be raised concerns why it is that people tend to adopt theories that seem to supply convergence. Devitt's naturalism attempts to explain our preference for increasingly observationally useful theories using Darwinism, which is itself a moot point.¹¹⁶ However, if we accept Devitt's point that from a realist perspective convergence makes sense of the common-sense view we have of a progressive science it is still difficult to see what advantage is to be gained from labelling the process realist rather than pragmatic. The distinction here is between science as an activity that uncovers reality rather than 'invents' what is real for us. The reason for abandoning the idea of a science that converges upon reality and replacing it with a scientific method that generates more effective tools for dealing with specific problems is simply the Kantian observation that 'nature' cannot

¹¹⁵ Ibid., p. 125. In deeming the issue of Increasing Verisimilitude too complex for consideration Devitt ignores the far less technical models in use by writers like Polkinghorne. In this case (which we study in our section on critical realism) verisimilitude is used to describe the ability of scientific theories to represent or realise how reality actually is.

¹¹⁶ We have already noted some of the problems with adopting Darwinism as an explanation for the development of human thought processes. There are certain aspects of human culture that are apparently impervious to an evolutionary description – selfless acts of altruism for example. At certain levels of interpretation it is better to switch to different conceptual tools. For more on the shortcomings of evolutionary theory as a multi-function 'tool' see Chapter Six on Richard Dawkins.

tell us if we are 'getting it right'.¹¹⁷ Devitt makes the point that any sort of convergence is not essential for Scientific Realism but '...Nevertheless, Realists, like everyone else, have to explain scientific progress.'¹¹⁸ Devitt is strangely ambiguous about the role of convergence and its relationship with correspondence truth and Scientific Realism. He does not want to identify realism with success or to offer it as an explanation for progress since we could then, just as legitimately, put forward a doctrine like anti-realism in its place – '....And if anti-Realism were otherwise plausible, it would surely not fail for want of an explanation of progress.'¹¹⁹ More importantly, there is a real problem for Devitt in identifying Scientific Realism too closely with convergence because of the possibility (an actual feature of the history of science) of ontological elimination which calls into question the idea of a steady convergence upon truth.

Devitt's conclusion that we do not need either scientific realism or correspondence truth to explain scientific progress may be acceptable because as we have seen it may be possible under a pragmatic analysis of scientific development to accept that scientific tools can become more refined in their purpose. However, as Devitt acknowledges, these two doctrines taken together need some sort of convergence to explain scientific progress. The reasons for Devitt's attempt to isolate convergence

¹¹⁷ A common criticism of Rorty is that he is more of a realist than those philosophers he accuses of being realist. This is largely because he is commonly portrayed as a critic of the noumenal view of realism rather than the phenomenal version. The effect of this is that realism is portrayed as something that is, at best, an elusive project and at worst a foolish, pointless position to maintain. Rorty's caricature of realism is of the apparently indefensible Cartesian, God's-eye version of the doctrine. See Devitt, Michael (1991) Realism and Truth (Second Edition), pp. 207-208. Blackwell: Oxford. Ian Markham in his discussion of Alasdair MacIntyre's work makes a similar point: 'Underpinning the objections of the relativist is the problem of false expectations. These false expectations have arisen because of the Enlightenment. The Enlightenment project was an unobtainable quest for absolute certainty. It is a modern post-Enlightenment problem.' Markham, Ian (1998) Truth and The Reality of God: An Essay in Natural Theology, pp. 35-36. Edinburgh: T&T Clark.

¹¹⁸ Devitt, Michael (1991) Realism and Truth (Second Edition), pp. 207-208. Blackwell: Oxford.

¹¹⁹ *Ibid.*, p. 126.

from scientific realism are somewhat opaque.¹²⁰ He is reluctant to tie realism to convergence because if it could be shown, as this thesis attempts to demonstrate in the section on pragmatic approaches to science, that there is actually no convergence taking place in scientific practice then realism itself would be threatened. We have already noted the damaging effects of ontological elimination on the concepts of convergence or verisimilitude and Kuhn's concept of incommensurability also has a similar undermining effect.¹²¹ It is understandable that Devitt should want to protect scientific realism from such dangers but what is less clear is how this is possible. Devitt himself seems unsure how this immunity can be achieved. Crucially, he has already admitted that realists have to provide some sort of explanation for scientific progress. Remember, Devitt's challenge to scepticism was founded upon a move to 'naturalize' epistemology and to apparently remove any hint of question-begging. As we saw, though, this approach generates many unanswered questions about the epistemic and ethical standing of science. We do not have to accept blindly that science is the best explanation that we have. This sort of view harks back to the days of logical positivism when it was claimed that the criteria for truth worked to by scientists was something that did not require external justification.¹²² The sceptical challenge remains. Devitt has merely employed new versions of old techniques to try

¹²⁰ Devitt thinks that the contemporary debate about scientific realism is wrongly focused upon a specious conflation of a metaphysical doctrine (realism) and a semantic doctrine (correspondence truth). The resulting hybrid, 'Theory Realism' differs from his 'Entity Realism' thesis because it puts too great a strain on Realism, forcing it to accommodate semantic claims. However, as we have already seen, Devitt does smuggle in at least some semantic content to his realist metaphysics: 'The doctrine I have call (sic) Realism is a *metaphysical* doctrine (though a little bit epistemological and semantic in its insistence on the objectivity of the world)'. Ibid., p. 40.

¹²¹ See section on Kuhn in Chapter Five.

¹²² It is interesting that the realist scientists that we examine in this thesis are probably unconsciously closer to logical positivism than they are aware. Dawkins certainly sees Hume as an ally and his distaste for metaphysics renders him vulnerable to the same difficulties that eventually saw off the logical positivists (we look at Dawkins in Chapter Six). Polkinghorne is cosmetically more circumspect about the realist credentials of science but as we see in our section on the realist theologian scientists his critical variety of the thesis is soon revealed to be just as unquestioned and question-begging as that proposed by Devitt.

and avoid it.¹²³ The idea that some explanatory schemes are the best possible explanations of an objective reality is something that this thesis aims to undermine and expose as unhelpful.

The subject of convergence seems crucial to scientific realism. Whilst he initially seems intent on removing it to the periphery of his concerns (because of the already noted damage it is capable of causing), Devitt is ultimately forced to accept it because ‘...In sum, abduction leads from Realism, Correspondence Truth, and the fact of scientific progress to a doctrine like Increasing Verisimilitude.’¹²⁴ Devitt returns to the subject later in Realism and Truth and introduces a qualified version of the concept, ‘Complex Convergence’ which he defines as a form of convergence that explains truth in terms of ‘...partial reference’.¹²⁵ So Complex Convergence suggests that science is getting an increasingly accurate picture of a group of partial referents. In introducing this refined form of convergence Devitt hopes to escape from the problems of ontological elimination and Kuhnian incommensurability and retain the essence of scientific progress as ‘getting more truth’. However, as he notes, any form of the convergence doctrine cannot be said to provide truth for realism or even to provide good reasons for accepting realism. One could argue that scientific progress is not about garnering more truths about the natural world but rather in improved ways of solving specific problems. Improved theories do not necessarily

¹²³ Naturalized Epistemology does not repel the sceptical challenge to realism and this is not, as Devitt argues, because sceptics place the standard for knowledge ‘too high’. It is simply that his explanatory justification for realism based on science begs the question. It is not asking too much to expect some sort of external justification for why science is the best explanation of objective reality. This is a rather grand claim and it needs to be accompanied by an adequate explanation of why it can be said to deliver truths about objectivity rather than the sort of inter-subjective agreement espoused by this thesis. For more on this see Moser, Paul ‘Realism, Objectivity and Skepticism’ in Greco, John and Sosa, Ernest (Editors) (1999) The Blackwell Guide to Epistemology, pp. 70-91. Oxford: Blackwell.

¹²⁴ Devitt, Michael (1991) Realism and Truth (Second Edition), p. 173. Blackwell: Oxford.

¹²⁵ *Ibid.*, p. 173.

imply increasing truth whether it refers to the whole or only partial reality. At an everyday mundane level it is possible to enjoy success by spurious means.

Devitt is initially careful to separate out the doctrines of realism and correspondence truth but it seems that he is ultimately forced into enacting a reunion to strengthen the ailing realist cause. The detail of Devitt's methodology and his taxonomy of the various factors which are commonly associated with realism turn out to be a smokescreen for what is actually an easily recognisable restatement of the realist doctrine. Where Devitt is perhaps most inventive is in his adaptation of a naturalized epistemology as a way of undermining the sceptical challenge but, as we have seen, this is not really an answer. The invocation of science as an unquestionable (and literally unreasonable) quasi-foundational prop for realism sits uneasily with the image of science commonly portrayed by scientists, and probably by those studied in this thesis. Perhaps, though, Devitt is just being honest in acknowledging that science cannot be supported by its own standards and neither can it appeal to outside arbiters.¹²⁶

The problems for critical realism become intensified when applied in a theological context. As we have suggested, critical realism carries with it Logical Positivist Dispositions that promote scientific vocabularies to the denigration of religious vocabularies. Devitt is a good example of this because he explicitly chooses science as the guarantor of human epistemology. We now need to explore the implications of such an approach from an intrinsically Christian theological perspective to discover

¹²⁶ An interesting attempt to save scientific realism from these difficulties has been proposed by Nicholas Rescher. We will examine this in Chapter Four.

the theological roots of the damage done by a critical realist approach. For this we will turn to an erudite recent exposition of this approach as supplied by Ian Markham.

Chapter Three

Ian Markham: Realism and Theism

Realist theism brings the problems of maintaining a realist position into sharp focus. The problems for contemporary theologians who wish to maintain a realist theistic stance are illustrated in the neo-natural theology of Ian Markham. Natural theology traces a progression from our knowledge of the world to knowledge of God. In order for us to know God we must be certain that human rationality is up to the task. If we cannot even attain knowledge of the outside world then we certainly cannot know God. However if we accept that God exists and acts as a sort of external guarantor of human rationality then we are justified in calling what we know 'Knowledge' and what we believe to be true 'True'. We can see here the beginnings of a theological interpretation of realism and truth that, in contrast with Devitt, takes God rather than science as its starting point.

In Truth and the Reality of God¹²⁷ Markham engages with a dilemma posed by Nietzsche. Though Nietzsche's canon is diverse and often contradictory one of his extended passages in Twilight of Idols and The Anti-Christ, about the genealogy of Realism and its relationship with Christianity, crystallises a difficult problem.¹²⁸ When taken together with his famous affirmation of the death of God it illustrates a difficult problem for contemporary realist theologians.

¹²⁷ Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, Edinburgh: T & T Clark.

¹²⁸ See, Nietzsche, Friedrich (1990) Twilight of the Idols and The Anti-Christ London: Penguin.

To begin with, as Markham notes, Nietzsche's most (in)famous proclamation is a cultural or sociological one. For Nietzsche, the sort of world where we can lay claim to a realist interpretation of theism and hence an objectively existing God is long gone. Its death throes began with Kant's denial of the possibility of noumenal knowledge and then positivism; the theory of evolution sealed its fate.¹²⁹ The paradox for Nietzsche, Markham notes, is that evolutionary science undermines the foundation of traditional realism because it exposes human rationality as a product of innumerable chance events and it is in no way a necessary feature of the universe. Once we have stopped believing in God or rather the metaphysics that supports the idea of a transcendent being we have lost the Archimedean point from which we negotiate our rational arguments. For Nietzsche, Christianity has become decadent because its adherents continue to observe its principles and ethical teaching even after they have rejected its metaphysical support.¹³⁰ Crucially for Markham, though, is the relationship, highlighted by Nietzsche, between realism, truth and theism, specifically Christian theism.¹³¹

¹²⁹ Rorty suggests that the idea that there is conflict between science and religion stems from a specious philosophical separation between the knowledge-claims made by different cultural tools. His proposal that we only make a sociological distinction between them stems from his anti-representationalism, which suggests that there is no such thing as a representational relationship with Reality. The only relationships to reality are causal ones. His principal concern is not with what he considers to be the redundant dispute between science and religion and the question of which one is better suited to comment upon non-human reality but with the current debate between realists and anti-realists. Whilst he does not consider himself to be an anti-realist he sees this contemporary debate as more fundamentally concerned with whether there is (realism) or there is not (anti-realism) a non-human Reality that our various discourses are respectively better or worse at representing. Clearly he sides with the latter. We explore this in Chapter Five. See Rorty, Richard 'Response to Michael Williams' in Brandom, Robert (Editor) (2000) Rorty and His Critics, pp. 217-218. Oxford: Blackwell.

¹³⁰ The irony here, as Markham notes, is that Nietzsche's perspectivism obscures any of the points that he makes. Argument is used to illustrate the redundancy of argument in the context of modernity: '...Nietzsche joins Augustine and Aquinas in believing that God is required for truth. The denial of God has created the crisis of modernity.' Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, p. 114. Edinburgh: T & T Clark.

¹³¹ A possible criticism of Markham is that he handles theism *in general*.

Natural theology goes hand in hand with some sort of realist metaphysics because it is concerned with our ability to make statements about an objective reality. Markham suggests that a belief in God is necessary for realism because only the sort of God described by the Abrahamic faiths can satisfy the realist assumption that the universe is intelligible.¹³² Natural theology has fallen out of fashion because of the contemporary crisis in metaphysics brought about by a recent shift in emphasis in philosophical theory. There are, too, influential alternatives. The Barthian model of revelatory theology removes the need for rational inquiry into the nature of God and compels us to accept theism and hence realism based upon the explicit revelatory acts documented in the Christian canon. Markham notes that fideism is a popular approach to the question of faith because it acknowledges the 'non-rational' nature of coming to believe. Similarly the 'radical orthodoxy' movement characterised by theologians such as John Milbank discounts the idea that reasons for religious conversion can be provided from outside the specific tradition, thus protecting the subject faith from external, secular attack.¹³³ The opposite extreme of natural theology, inspired by Wittgenstein's fragmented writings on religion, is the anti-realism of writers such as D. Z. Phillips and Don Cupitt who reject the idea that religious language is representational and with it the idea of an objectively existing God.¹³⁴

¹³² One of the difficulties with natural theology echoes difficulties with realism itself. In order for us to demonstrate the validity of realism (the existence of God) we must first assume that realism (God) is true. What proof is offered comes in a retroactive form. We look at this difficulty in Chapter Four.

¹³³ Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, pp. 37-57. Edinburgh: T & T Clark.

¹³⁴ See, for example, Cupitt, Don (1998) The Revelation of Being London: SCM Press, and Phillips, D. Z. (1976) Religion Without Explanation Oxford: Blackwell.

So there are innumerable opponents of natural theology but it also has a rich tradition within Christianity ranging from St Paul and Aquinas to more recently, important writers such as Pannenberg and Moltmann.¹³⁵ We are not really concerned with the history here, however, neither is it within the scope of this chapter to represent all the differing schools of theology on this issue. What we should be concerned with is, given the problems we have identified in our section on Devitt, how realism can be salvaged and applied within a religious context. This thesis argues that realism is a damaging doctrine to both science and religion and nowhere is this more obvious than when the two discourses interact and conflict ensues. In anticipation of the fuller exposition of the Creative Tension Model, the proposed model for the interaction between science and religion which follows in Chapter Five, we should point out the possibility that this conflict is more a tension between different attempts to solve similar problems. It does not tell us that one discourse is True in its attempt to represent reality and the other false. Rather it presents an opportunity for conversation and a chance for those within a discourse to learn to use their tools in innovative ways. Where Creative Tension departs from Rorty is in its support for religion as a valid tool even in post-metaphysical society (perhaps especially in such a society). If, for example, we take Christian texts such as the stories of creation, in Genesis chapter one, as something that provides a vision for locating human lives it is difficult to see how this can possibly conflict with the scientific discourse of

¹³⁵ Markham correctly identifies Richard Swinburne for his important work on the proofs and arguments for the existence of God which present a view of faith that is too clinical, too 'scientific'. The danger with concentrating on trying to 'prove' God's existence is that it makes Christianity and God sound dangerously like scientific theories and the putative objects they describe. This plays into the hands of positivists such as Dawkins. This thesis has repeatedly illustrated the dangers of making religion more 'science-like'.

primordial physical processes.¹³⁶ But before developing this alternative vision, we need to look at Markham's work in some detail.

The sort of realism proposed by Markham is a development of Devitt's version, which places him squarely in the critical realist camp occupied by the scientist theologians that we looked at in chapter one.¹³⁷ Markham, like Devitt, accepts that the realism issue has become too entangled with epistemological questions over metaphysical ones about external reality and he also agrees that we can deal with the sceptical problem by rejecting it.¹³⁸ However, where Devitt sees an escape from scepticism in a naturalized epistemology based within science, Markham identifies a more mundane, 'existential' stumbling block for it:

We can reject the sceptical puzzle altogether. Any doubts about whether we are dreaming are less than the certainty we have about the existence of tables, chairs, and doors. We are entitled to offset the lesser doubts with the greater certainties.

In practice we all have to. Even if I – philosophically – doubt the existence of the door, I still have to open it on departure.¹³⁹

¹³⁶ This resolves the issue of the apparent conflict. The Creative aspect of the thesis deals with the possibility of discourses retaining their autonomy and their unique approach but also with their receptivity to new techniques learned through conversation with 'competing' language games. In this example the Christian discourse learned from science that it should not treat Genesis Chapter One as if it were a scientific textbook or a document of physical processes. For more on this see Chapter Six on Scientific Creationism.

¹³⁷ See Chapter One.

¹³⁸ That is by *not* dealing with it. See Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, pp. 48-49. Edinburgh: T & T Clark.

¹³⁹ *Ibid.*, pp. 48-49. Markham draws attention to the commonly held view amongst critics of pragmatists/non-representationalists that Rorty *et al* grant themselves at least one realist indulgence when they 'assume' the existence of an external causal force – the world. We look at this in Chapter Five but, as Rorty notes in his discussion of language as a tool: 'There is no way in which tools can take one out of touch with reality. No matter whether the tool is a hammer or a gun or a belief or a statement, tool-using is part of the interaction of the organism with its environment. To see the employment of words as the use of tools to deal with the environment, rather than as an attempt to represent the intrinsic nature of that environment, is to repudiate the question of whether human minds are in touch with reality –

Markham also thinks that Devitt's realism does not go 'far enough'. Where Devitt allows for the existence of the simple objects of common sense and of science Markham wants to push his critical realism further. He also identifies correspondence truth as an important ally to critical realism (quite early in his argument), whereas Devitt only grudgingly accepts it, almost as an irritating adjunct to his thesis, when he realises that it is necessary to uphold the idea of a convergent science.¹⁴⁰ Markham thinks that correspondence truth is important to realism because there seems little point in declaring that objects exist without also setting out how we are to discriminate between different descriptions of these same objects. So against Devitt, Markham proposes that it is not enough to talk of realism alone, that would be uninteresting because he is concerned with explicating the character or nature of reality. Where Devitt sought to separate out the metaphysical and epistemological questions, Markham reunites them at the centre of his critically realist account of truth. Markham's own summary of this position (which we shall refer to as his 'Definition of Critical Realism') runs like this:

the question asked by the epistemological sceptic....The very idea of 'being out of touch with reality' presupposes the un-Darwinian, Cartesian picture of a mind which somehow swings free of the causal forces exerted on the body. The Cartesian mind is an entity whose relations with the rest of the universe are representational rather than causal. So to rid our thinking of the vestiges of Cartesianism, to become fully Darwinian in our thinking, we need to stop thinking of words as representations and to start thinking of them as nodes in the causal network which binds the organism together with its environment.' Rorty, Richard (1999) Philosophy and Social Hope, p. xxiii. London: Penguin. The problem of the existence of an external world is only a problem if we still hold the Cartesian picture of consciousness. Rorty's use of the Darwinian metaphor illustrates our place in a causal network and like Markham's example it makes no judgement about the True nature of the external world.¹⁴⁰ This is something Markham, too, has noticed, 'To give Devitt his due, while in principle he believes that it is important to separate the issues, in fact he does go further by then linking his realism with a correspondence theory of truth.' Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, p. 66, note 8. Edinburgh: T & T Clark. Convergence is not constitutive of Scientific Realism or of Correspondence Truth but it is necessary if the idea of scientific progress is to be saved from the problem of ontological elimination. In other words a realist science *does* need to accept the concept of convergence. See for example, Devitt, Michael (1991) Realism and Truth (Second Edition), pp. 298-299 . Blackwell: Oxford.

1. World perspectives are attempts to make sense of reality as experienced.
2. Reality is the ultimate control on the legitimacy of truth claims.
3. Certain world perspectives are better than the alternatives.¹⁴¹

Markham's version of realism is infused with a concept of truth and represents his desire to use realism to uncover a fully formed reality that already exists. It is not just concerned with stark statements about objects and causes. Devitt's naturalism painted a monochrome version of realism, which began with causes and scientific descriptions and showed no desire to progress to questions of logical necessity or to provide reasons for things being the way they are. Markham's version of realism comes wrapped up in a very specific portrayal of what it means to be religious. In this scenario believing in God means being part of an '...all-embracing world perspective – one which sees the universe as ultimately personal rather than religious. One that sees morality as a matter of discovery rather than invention. And one that grounds the possibility of truth in the reality of God.'¹⁴² The relationship between Markham's critical realism and his understanding of what it means to 'be religious' is clearly vital to understand his broader thesis. We must briefly pause to examine this. That the practice of 'being religious' can be understood in different ways is an important component of the Creative Tension Thesis. As this thesis argues, however, some ways of characterising the religious world view may be more helpful than others and just as it is damaging to portray science as that which uncovers the Truth about Reality so the same can be said about religious practice.

¹⁴¹ Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, p. 49. Edinburgh: T & T Clark.

¹⁴² *Ibid.*, p. 70. As we can see Markham can be located within the same school of critical realism occupied by the scientist theologians we looked at in Chapter One. The clue is in the use of the concept of 'discovery' with regard to moral imperatives.

Markham distances himself from a positivist approach, which treats religion as a postulate about esoteric but objectively existing objects. This latter approach, though typified by Bertrand Russell's atheistic extrapolation, has also been explored by theists such as Richard Swinburne in his influential series of texts examining the rational and evidential arguments for God.¹⁴³ Despite the undoubted theistic convictions of those like Swinburne, Markham feels that attempts to provide inductive arguments for God's existence or to show that God is a reasonable postulate to uphold, fail to represent the true nature of religious belief. The model of religion that they suggest is too one-dimensional, overly concerned with identifying God as another, albeit rather special, feature of the natural world. The result is just a theistic version of Russell's atheistic positivism which was clearly a flawed model for exploring religious belief. Another possible option is the anti-realist approach which acknowledges, with Markham, that religious belief is not a tentative hypothesis in the manner of positivist accounts. Religious belief does involve a firm commitment to the reality of God but a commitment that, along positivist lines, cannot be rationally defended. The way out of this difficulty is through the neo-Wittgensteinian approach to religious language that grants religious discourse autonomy away from positivist demands. So through anti-realism we discover that religious people are not making literal claims about reality – this would be to interpret religion through positivist or scientific discourse. Instead, religion is a way of coping with the contingencies of life and does not involve claims about objective or transcendent realities.¹⁴⁴ Markham

¹⁴³ See, for example Swinburne, Richard (1989) The Coherence of Theism Oxford: Clarendon Press and Swinburne, Richard (1979) The Existence of God Oxford: Clarendon Press.

¹⁴⁴ Markham's critique of anti-realism focuses on the work of D.Z. Phillips and Don Cupitt. Interestingly he makes the same criticism of both Cupitt and Rorty – one that we have already drawn attention to – that they both surreptitiously employ some form of weak realism in order to establish the existence of at least one external reality – the world. For example, '...Rorty it

argues that this portrays a version of religious belief that few adherents would recognise. By confining belief to the rules of the religious language, game anti-realists fail to capture its true character. Markham asserts that being religious involves having a religious world-view that infuses and transforms all discourses. This perspective on 'being religious' can be summarized in three key points. It (religion) is:

(1) a claim about the nature of all reality, (2) an all-embracing world-view that contrasts markedly with the secular humanist one, and (3) a certain set of assumptions that touch everything.¹⁴⁵

So Markham argues that the sort of God that is recognised by theists is not the God described by Swinburne, as a pseudo-scientific entity, but rather a transforming worldview. However, there are a number of points that need to be considered before Markham can retrospectively arrive at this position. To begin with there is the question of Truth. As we have already noted Markham sees correspondence truth, realism and theism to be an inseparable unity. The role of natural theology is to narrate the explanatory power of the religious world-view. Natural theology is possible because scriptural evidence tells us that we have been made in God's image and despite our fallen nature we still retain something of our divine inheritance. This is an assertion about human anthropology. In addition to this, there is God's self-disclosure or revelation through the creation. The crucial point here is the question of

seems does believe in objects. However, the problem is that so many of his arguments point in the opposite direction.' Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, p. 48. Edinburgh: T & T Clark. Leaving to one side the criticism of Cupitt it is important to re-stress the distinction between anti-realism and anti-representationalism. We return to this in Chapter Five.

¹⁴⁵ Ibid., p. 16.

rationality and Markham's idea of a universal rationality. Critical realism can only work if we agree that human rationality is a universal feature and that it in some way mirrors the way things actually are. Markham develops this idea using MacIntyre's concept of 'Tradition-Constituted Rationality'.¹⁴⁶ The theological implications are that, given the wide diversity of world religions, we must decide which ones are false and which one gives a true reflection of reality. The choice here as Markham sees it is between 'inclusivism' and 'exclusivism'.¹⁴⁷ Finally we must conclude by assessing the helpfulness of pursuing any sort of realist theism and look at any available alternative that could be formulated.

My argument is that although Markham wants to avoid the Logical Positivist Dispositions (LPD), he does not succeed in doing so. He attempts to avoid LPD by constantly stressing the religious and total world perspective as opposed to a 'secular' one. He fails because he always works out from the empirical (e.g. Eskimos and English people arguing about 'snow' or even worse Americans and English people needing the toilet) and never actually deals in any detail with religious, poetic or metaphysical narratives. The exception to this is his cosmological argument, but this simply operates as a framework argument: He does not consider metaphysical arguments in themselves. So the cosmological argument is intended to justify critical realism: He does not engage in metaphysical arguments about say the meaning of the Trinity. This, I want to suggest, shows how Markham is not taking the religious discourse seriously. In other words, this illustrates how LPD operate to ensure that

¹⁴⁶ Ibid., p. 35. See MacIntyre's original exposition in MacIntyre, A. (1988) Whose Justice? Which Rationality? London: Duckworth.

¹⁴⁷ Ibid., p. 124. Pluralism of course is not an option here since one cannot be a critical realist and accept a multiplicity of truths.

science is once again more important than religion. This, however, is to move too quickly; we need to first examine how Markham develops his argument.

Markham stresses how the issue of truth should be grounded in the doctrine of realism. He notes that Devitt's version of realism does not extend far enough to deal with epistemological problems such as ontological elimination. The Markham version of realism or 'critical realism' as we shall now call it, draws on the early work of Alisdair MacIntyre, principally his theory of the 'tradition-constituted' nature of reality. This theory, Markham suggests, offers an escape from the 'damaging' effects of relativism because it argues that we do not need a neutral standard for truth and neither do we need the concept of 'absolute truth'.¹⁴⁸ Instead, traditions arise out of communities where intra-community agreement exists about beliefs, practices and techniques for inquiry. Crucially, this is where rationality is formed in the same sense as that proposed by Rorty in his concept of unforced agreement. Crises can develop within communities when there is disagreement about interpretations, where incoherence is found or when there is conflict with another system. The resulting

¹⁴⁸ Markham agrees with MacIntyre that relativism arises out of the unreasonable Cartesian and enlightenment quest for certainty in the face of scepticism. *Ibid.*, pp. 35-36. Antirepresentationalists are often accused of setting impossibly high standards for realism and also of misrepresenting realist criteria for truth. As we saw in our section on Devitt, people like Rorty have come under attack for setting Cartesian standards for correspondence. For example, Rorty, in discussing realists' use of words such as 'determinate', or other terms intended to evoke the idea of words corresponding with reality, says '...Antirepresentationalists think this latter cluster dispensable because they see no way of formulating an *independent* test of accuracy of representation – of reference or correspondence to an "antecedently determinate" reality – no test distinct from the success which is supposedly explained by this accuracy. Representationalists offer us no way of deciding whether a certain linguistic item is usefully deployed because it stands in these relations, or whether its utility is due to some factors which have nothing to do with them – as the utility of a fulcrum or a thumb has nothing to do with "representing" or "corresponding" to the weights lifted, or the objects manipulated with its aid.' Rorty, Richard (1991) Objectivism, Relativism, and Truth: Philosophical Papers Volume One, p. 6. Cambridge: Cambridge University Press. We return to this question in Chapter Five but it is important to stress that it is not antirepresentationalists that set the 'impossibly high standards' but the realist in thrall to the correspondence theory of truth. The idea of a truth that is beyond the socially and linguistically proscribed is a hollow incantation unless it can be substantiated from a neutral standpoint.

'epistemological crisis' is a state where the tradition appears to lack the resources for dealing with its problems. Now the tradition must develop new tools to resolve the issues. The decisive standard invoked here, MacIntyre argues, is a version of correspondence truth. The aim of these novel approaches, then, is to represent reality. MacIntyre also suggests that though there is no neutral rationality that we can appeal to, we can make judgements about traditions that stand outside our own tradition. Clearly there are problems with this position. As Markham notes, even though MacIntyre denounces the idea of a universal rationality he still asserts that the main concern of all traditions is to achieve some sort of correspondence with reality.¹⁴⁹ The problem of historicism is something that Markham seeks to address in his own proposal for a modified version of a 'tradition-constituted' enquiry. Central to this proposal is a dependence upon a critical realist account of truth.¹⁵⁰

We have already noted Markham's criticisms of Cupitt and Rorty. His main accusation against these and other similar historicist philosophers is that they reach their conclusions by employing a covert realism. In discussing how important language and communities are for providing an interpretative framework, Markham argues that we need to accept his three standards for critical realism before we can make any such claim.¹⁵¹ The reason for this is that '...Communities imply the existence of other minds. Even Rorty and Cupitt accept the reality of a world of objects in which we all live and communicate. These are significant concessions to

¹⁴⁹ Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, pp. 38-39. Edinburgh: T & T Clark.

¹⁵⁰ Ibid., p. 41. Rorty agrees with the spirit of MacIntyre's tradition-bound picture of reasoning. See Rorty, Richard 'Universality and Truth' in Brandom, Robert (Editor) (2000) Rorty and His Critics, p. 20. Oxford: Blackwell. We look at Rorty's thinking about ethnocentrism and the possibility of conversation between traditions or cultures in Chapter Five.

¹⁵¹ See above p. 20.

realism.’¹⁵² However, the problem of ‘other minds’ presupposes a representationalist picture that says that our words ‘capture’ something that is ‘out there’. The gap between what is ‘in here’, that is the Cartesian model of the mind, and what might be ‘out there’ is only a problem for those still in thrall to the pre-Wittgensteinian picture of representational language. This ‘problem’ is simply a regression to the long atrophied debate between realists and anti-realists. Another problem with this criticism is with Markham’s own response to the sceptical problem which is to reject it.¹⁵³

One of the most important aspects of Markham’s model of rationality is the issue of translation and the possibility of communication between different communities. He argues that communication between people requires some sort of translation which itself is contingent upon a shared reality:

*It is my contention that communication and related activities involved in communication, such as translation, are only intelligible if one assumes that language constructs emerge as an attempt to explain reality.*¹⁵⁴

Markham’s realist model of language is a response to MacIntyre’s concern that in order to understand another language we must first become as fluent in the target

¹⁵² Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, p.50. Edinburgh: T & T Clark.

¹⁵³ Ibid., pp.48-49.

¹⁵⁴ Ibid., p.54. Anti-representationalists would argue that it is wrong to assume that different cultures or different historical peoples are talking about reality and that it is damaging to think of any discourses as referring to reality: ‘Why cannot we get Reality (aka How the World Really Is In Itself) right? Because there are no norms for talking about it....There are norms for snow-talk and Zeus-talk, but not for Reality-talk. That is because the purposes served by the former, but not those served by the latter, are reasonably clear.’ Rorty, Richard ‘Response to Bjorn Ramberg’ in Brandom, Robert (Editor) (2000) Rorty and His Critics, p. 375. Oxford: Blackwell. Markham obviously thinks that the universality of logical laws helps provide the ‘norms’ required for critical realism but we will return to that later.

language as we are in our native tongue. So we must become bilingual. This is seen as necessary because otherwise certain concepts will remain obscure to us and we will not attain a comprehensive understanding. The problems with this are clear and far-reaching. Certainly it makes the job of historians difficult if not impossible.

Markham's model for translation stresses the impossibility of communication between cultures without the universal backdrop provided by reality:

An Eskimo insists that there are many different types of snow, and an English person disagrees by insisting that it is all just 'snow'. This disagreement is best resolved by reality. Presumably the English person could, perhaps after a little training, see the fine distinctions for which the Eskimo has particular words. If so, then when it comes to 'snow' the Eskimo has the better and more refined world-perspective.¹⁵⁵

In this example, Markham attempts to show the second and third principles of his 'Definition of Critical Realism' in practice.¹⁵⁶ In this case the 'Reality' controlling the truth claims about the nature of snow, is the finer distinction between types of snow that can be shown to an English person who holds a naïve and rudimentary conception of snow. 'Reality' in this sense is the natural phenomena 'out there' that corresponds to the snow-language used by the Eskimo. Now that the English person

¹⁵⁵ Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, p.56. Edinburgh: T & T Clark. It is not clear here why we need the construct of Reality to come to see the different types of snow identified by Eskimos. Markham is attempting to extend his observation (that we have already shown to be specious) that pragmatists have already accepted one realist tenet – the existence of other minds – to force them into accepting a representationalist interpretation of language or to imply that they have already accepted it. The implication of this passage is that Eskimos have formulated a better representation of the Real nature of snow. An anti-representationalist would prefer to say that they had devised an effective way of coping with the problem of variant environmental conditions just as our (British) use of 'snow' is sufficient to deal with our situation.

¹⁵⁶ '2. Reality is the ultimate control on the legitimacy of truth claims. 3. Certain world perspective are better than others.' *Ibid.*, p.49.

has been shown how the Eskimo taxonomy, of types of snow, more accurately corresponds to what snow Really is they can accept this world-perspective as a superior one to their own. We know what it is to come to see something from someone else's perspective but this does not have to bring with it the sort of assumptions that Markham is proposing. Markham seems content to put anti-realists and anti-representationalists (pragmatists) in the same category. The result is that we are forced to choose between his critical realism which acknowledges the existence of an external Reality and also states that our language 'represents' Reality, and another option that seems to accept the existence of an external world but does not agree that our language in any way represents the world. When the distinctions are put like this it is not surprising that we are more inclined to go along with the more coherent, reasonableness of Markham's critical realism. However, if we introduce an alternative model, an anti-representationalist approach, we might be less inclined to accept critical realism. With this approach we do not see any contradiction between denying that language represents Reality and affirming that the world exists as a causal limitation on language. The hybrid of anti-realism and pragmatism presented by Markham does seem to be founded upon a contradiction because it seems to affirm the existence of something (the world) whilst at the same time removing our ability to talk about it. With a more pragmatic approach we lose the decadent shadow of the realist picture that lurks in anti-realism and utilize a new, non-representationalist model of language that loses the sense of words being more or less accurate mirrors of Reality. Once the concept of Reality has gone so too must we abandon the idea of language representing Reality, to continue to use this model in the light of the former is to practice the sort of decadence described by Nietzsche.¹⁵⁷

¹⁵⁷ As we have seen, Markham deals extensively with Nietzsche's challenge to those who

So there are other options: With an anti-representationalist approach, discourses are not amended or rejected according to their ability to reflect Reality but rather because of their effectiveness in coping with or solving problems. Snow is not as important an issue for the British as it is for Eskimos so our coping strategy, the discourse which falls under the definition of 'weather', expresses different priorities. Rather than labelling Eskimo weather discourse a truer world perspective or a more comprehensive reflection of Reality we should simply pay it the compliment that it enables them to cope with effects of a diversity of different types of snow. The difficulty with ascribing the quality of 'more Truth' to different variants of a discourse is that we have no extra-linguistic way of making this judgement. If we assume that all discourses, or 'world-perspectives', are in the business of representing Reality the problem is intensified when we come to rival attempts to represent the same aspects of Reality. The *reductio ad absurdum* of this sort of problem is studied later, when we look at Genesis chapter one: Problems arise when the discourses of evolution and Genesis chapter one become rival attempts to represent the Reality of the events surrounding the origins of life.¹⁵⁸ Markham accepts the Wittgensteinian point that language arises out of communities or that it is 'tradition-constituted' but he is anxious that this concession should not be a prelude to the sort of anti-realism or linguistic idealism that he sees in writers such as Cupitt. It is not enough that

wish to maintain the possibility of Realist Truth. Another possible response to Nietzsche is to live beyond the Enlightenment crisis about Truth and to reformulate truth in pragmatic terms, an approach that ties in with Nietzsche's own perspectivism: 'Nietzsche thought that realism was to be condemned not only by arguments from its theoretical incoherence...but also on practical, pragmatic grounds. Nietzsche thought that the test of human character was the ability to live with the thought that there was no convergence.' Rorty, Richard (1994) Objectivism, Relativism, and Truth: Philosophical Papers Volume One, p. 32. Cambridge: Cambridge University Press. Rorty sees Nietzsche as a proto disciple of his own model of truth based upon 'solidarity'. For more on this see Chapter Five.

¹⁵⁸ Clearly I am not suggesting that Markham is necessarily guilty of this attitude to Genesis and evolution. However, critical realist theologians do run into difficulties when face with the relationship between science and religion as we see in our section on scientist theologians.

language develops out of communal needs or desires to cope with the environment because Markham also wants it to refer to Reality. He begins with the observation that ‘...*all* communication between human beings depends on this assumption of a shared external world.’¹⁵⁹ He has already established that language is ‘tradition-constituted’ but in order to avoid the dangers of anti-realism he clarifies further:

However, one should not move from this fact to anti-realism. For language must imply, as a bare minimum, the existence of other minds and the existence of communities. Language makes very little sense if other people do not exist. Further, communication and translation assume that the purpose of language is the construction of world perspectives that make sense of the world that we share with others. We cannot translate *unless we assume that the external world provides the standard to legitimacy*.¹⁶⁰ (my italics)

As we have seen, the idea that we can test our judgements against the litmus paper of Reality, though initially attractive, turns out to be specious and damaging. We have shown how there is no contradiction between being an anti-representationalist and, at the same time, accepting the existence of ‘other minds’ along with the external world. These non-problems only inflate into difficulties if we pump them up with Cartesian, representationalist pictures of Reality. Also, it is difficult to imagine how we can test the legitimacy of a discourse from the perspective of its ‘Reality value’. The only test we have is the sort of justification that comes in the terms provided by the relevant

¹⁵⁹ Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, p.57. Edinburgh: T & T Clark.

¹⁶⁰ *Ibid.*, p. 57.

discourse.¹⁶¹ As we have already demonstrated we do not need Reality to act as a determinate standard, not just because this would be to stray dangerously close to a position that puts Facts ‘out there’, but because we already have the judgemental facilities within our own language communities. It is not necessary to posit a neutral reference point for the different discourses within a community (or between communities).¹⁶² We might put the alternative, pragmatic version of Markham’s ‘Definition of Critical Realism’ thus:

- (1) World Perspectives (discourses) are tools for coping with our environment.
- (2) The control on a discourse’s legitimacy is agreement about its utility.
- (3) Some tools are more effective than others.

Once we have abandoned the idea that language ‘cuts Reality at the joints’ we are left with a more holistic picture which firmly instantiates us and our coping tools (language) within our environment. The idea that there is a gap between ourselves, our language and Reality vanishes along with the representationalist picture. What we have, underpinning Markham’s argument, is a presumption that our words must link with a ‘concrete’ world. Words and things need to connect. I want to suggest that this is further evidence of the LPD underpinning Markham’s argument. His is a world of tables, chairs and snow. It implies the triumph of science over all other discourses. These criticisms of Markham’s model are damaging but before we look at

¹⁶¹ This is nicely crystallized by Rorty: ‘It may seem strange to say that there is no connection between justification and truth. This is because we are inclined to say that truth is the aim of inquiry. But I think we pragmatists must grasp the nettle and say this claim is either empty or false. Inquiry and justification have lots of mutual aims, but they do not have an overarching aim called truth. Inquiry and justification are activities we language-users cannot help engaging in; we do not need a goal called ‘truth’ to help us do so, any more than our digestive organs need a goal called health to set them to work.’ Rorty, Richard (1999) Philosophy and Social Hope, pp. 37-38. London: Penguin.

¹⁶² For more on the Creative Tension Model of inter-discourse, inter-community interaction see Chapters Five and Six.

the wider implications we must look briefly at his utilisation of logic as a justification for critical realism.

Whilst Markham is reluctant to admit there is such a thing as a 'transcendent rationality' so many of his arguments suggest otherwise.¹⁶³ He sees logic as an extension of his argument that the purpose of language is to 'make sense of Reality'. We have already argued that it is damaging to think of language in this way and the alternative anti-representationalism, which is at the heart of the Creative Tension thesis, deals with this issue. Markham sees logic as a universal claim which provides the possibility of the sort of translation that we looked at above. We do not need to examine the details here for we are more concerned with the implications for Markham's critical realism and his model of theism. The essence of his argument is that both deductive and inductive logics are concerned with rules for reasoning and for making claims about the world. Markham continues: '...This is not making a realist claim for logic. Instead the rules of logic are embedded in language and *seem to fit the world.*'¹⁶⁴

There are a number of subtle propositions here that need to be carefully uncovered. To begin with, Markham is a proponent of the idea of universal logical laws. He sees these laws, not in realist terms, but as 'embedded in language'. Also, as well as being a theological monist he is also a logical monist – that is he believes that there is

¹⁶³ For example, in his discussion of inclusivism he affirms 'Inclusivism is not making a 'tradition-transcendent' claim. It freely admits that other traditions become, at best, a subset of a different tradition. A transcendent rationality is not needed.' Markham, Ian (1998) Truth and The Reality of God: An Essay in Natural Theology, p. 125. Edinburgh: T&T Clark.

¹⁶⁴ *Ibid.*, p. 61. It is interesting that Markham has adopted logic, previously the preserve of the atheistic positivists such as Russell (whom he has discounted as having a false picture of religion) for theistic ends. There is a danger here that he might be veering into the sort of rationalism espoused by Swinburne; as we have seen, someone else Markham feels does not represent theism adequately.

ultimately ‘one correct system of logic’.¹⁶⁵ However, despite not being a realist about logic he does believe in the possibility that there perhaps are logical truths that remain undiscovered. Markham agrees with Haack that new ‘discoveries’ in logic may force us to revise our existing logical laws.¹⁶⁶ This is not to suggest that the laws of logic change but that our previous attempts at representing them have been inaccurate. Again Markham, on the one hand, rejects a realist conception of logic whilst affirming the very realist flavoured idea that we ‘discover’ the laws of logic rather than adapt the discourse of logic:

It is not necessary to envisage an almost Platonic realist concept of logic; instead we have a tool that is indispensable precisely because it fits the world.’¹⁶⁷

We should not be surprised if logic, as a pattern of behaviour ‘fits the world’. The danger comes when we ascribe a trans-human nature to logic as something that we can access beyond our given environment. Markham’s quasi-realist portrayal of logic again reaffirms the representationalist picture that estranges people from their environment. It also reintroduces the sceptical problem of how knowledge and certainty can be attained, this time with regard to logical principles. In this model our ways of coping are undermined because they may not truly mirror the way things really are. We have already shown the futility of thinking of things in this way. Similarly, Markham’s critical realism seems now to be less concerned with tradition-based forms of enquiry and more concerned with the sort of ‘facts’ that we looked at in our section on Devitt:

¹⁶⁵ Ibid., p. 61.

¹⁶⁶ See Haack, Susan (1993) Philosophy of Logics Cambridge: Cambridge University Press.

¹⁶⁷ Ibid., p. 62.

We have a two-way process. Facts in the world, transmitted through logical processes, alter the interpretative framework; and a belief in that framework, transmitted through logical processes, is confirmed by the facts in the world.¹⁶⁸

The order that logical thought processes exhibit seems to suggest that that which they represent – the world, is also ordered. This is the critical realist position encapsulated: We can be reasonably sure that our logical thought processes mirror the way the world actually is. The critical aspect is the acknowledgement that our thinking may be flawed in some way (perhaps due to our fallen nature) and that we must be open to future revisions demanded by these ‘facts in the world’.¹⁶⁹ The danger with locating Reality and hence God through logic is that you end up defining things in logical terms. This sort of limitation was called into question by Markham in his critique of Swinburne. If we remember, Markham rejects Swinburne’s projection of theism as a sort of scientific hypothesis; it being fundamentally irreligious because it treated God as another object cluttering up the universe. This was flawed because it led us back to Russell and to the arguments of the logical positivists (and to latter-day positivists such as Dawkins). However, at the moment we are concerned with how logic can lead us to realism. The difficulty with this motion is that it is a large step from observing that logical laws exhibit a certain regularity or universality to saying that logical laws reflect Reality. It may be possible to invoke God as the underwriter of the natural order but this is to engage in a sort of sleight of hand, defining the problem in the terms of the solution, manoeuvre.¹⁷⁰ The problem is that we need to know that

¹⁶⁸ Ibid., p. 63.

¹⁶⁹ This is where we see Markham clearly aligning himself with Polkinghorne’s approach described in Chapter One.

¹⁷⁰ In other words, we can only be sure that our logic actually delivers or approaches Reality if God exists to support this fact. A stable, ordered world points to the existence of a divine creator. The universality of logic suggests that the order it describes actually exists.

realism is correct in order for us to accept that logical laws are not just useful ways of thinking but they mirror Reality.

Whilst Swinburne focused on the argument from design, seeing the possibility of God indicated by the order and elegance of the natural laws, Markham focuses on the apparent universality of logic as an indication of the divine.¹⁷¹ Markham attempts to strengthen the idea, that the world and indeed the universe is ordered, by invoking the cosmological argument. In doing this he attempts to link the intelligibility of the universe with a theistic explanation; a strategy which is heavily dependent upon the success of his justification for critical realism. Markham also draws upon Ward's idea that the cosmological argument is to be used in the same way as the ontological argument – as a means of exploring or meditating upon given assumptions.¹⁷² So if we have already accepted the Christian model of God, we assume that reality is coherent and explainable. Markham then links this with his thesis that language and logic stand in a representational relation to Reality in order to fill out his wider thesis about the theistic foundations of Truth and Reality. He also reaffirms his commitment, against MacIntyre, to a critical realist version of 'traditioned-constituted rationality', which is founded in, and only made possible by, theism:

Therefore God exists. There are also positivist, verificationist overtones in attempts to find some external vantage point from which we can validate our truth claims. It is not enough that we can reach intra-community agreement about what we consider to be valuable, even 'true' (in a pragmatic sense). Realism even under the more modest guise of critical realism still demands the existence of some Truth to be represented. The difficulty of introducing God into this exercise in triangulation is that God starts to look like another thing that we can represent to a better or worse degree. This is to fall back upon the sort of theism that was ridiculed by the logical positivists and rejected by Markham.

¹⁷¹ Swinburne also formulates his version of an inductive cosmological argument in Chapter Seven of 'The Existence of God'. See Swinburne, Richard (1979) The Existence of God Oxford: Oxford University Press.

¹⁷² This is one of the themes explored by Ward in Ward, Keith (1996) God, Chance and Necessity Oxford: One World.

1. MacIntyre's 'traditioned-rationality' depends upon showing the intelligibility of the universe.
2. The intelligibility of the universe requires that the universe is ultimately explicable.
3. An endless set of contingent explanations will leave the universe as ultimately unexplained, for a contingent explanation always requires a further explanation.
4. Therefore for the universe to be intelligible, there must be a necessary being (i.e. a logically necessary being who exists in all possible worlds and is self-explanatory).
5. This is what theists mean by God.¹⁷³

The cosmological argument can only really work, as Markham admits, as a sort of contemplative device for those who are already using the theistic picture. The philosophical criticisms of the cosmological argument are well known and we need not spend time rehearsing them here.¹⁷⁴ It is enough to point out that the underlying assumption that is needed to make it work is that the universe complies with our logical preferences. This is precisely why Markham sees it as a valuable addition to his stock of arguments for critical realism. As we have seen, however, we do not need to tie in rationality with realism because we do not need to picture our modes of thinking as converging upon reality. If it turns out, as we have been arguing, that language does not mirror the world and that we cannot talk of vocabularies as being

¹⁷³ Markham, Ian (1998) Truth and The Reality of God: An Essay in Natural Theology , p. 91. Edinburgh: T&T Clark

¹⁷⁴ Though he is biased Mackie is probably the best resource for finding the various versions of the cosmological argument and their associate criticisms. See Mackie, J. L. (1992) The Miracle of Theism: Arguments for and Against the Existence of God, pp.81-101. Oxford: Oxford University Press.

more or less successful in their descriptions of Reality, then we cannot then use the language of necessary beings to provide external confirmation.

If we feed this back into Markham's discussion of logic we can see how untenable the critical realist position is. In many ways his model of logic is a means of importing a sort of a-historical rationality that can be appealed to as a quality that is over and above the otherwise mutable criteria available for choosing between theories and practices. Markham is opposed to instrumentalism because he takes the laws of logic to be universal: 'The possibility of communication across groups, cultures, generations and even between individuals would be unintelligible if this were not the case.'¹⁷⁵ Critical realism accepts that it is perfectly possible that we may be wrong in our judgements about the world but that we are broadly moving in the right direction even though the detail might be inaccurate. However, in order to even arrive at this mitigated form of realism we are still left with the yawning gap between our picture of the world and the 'facts' out there. In this model we can never be sure that we have truly represented reality because the 'facts' cannot tell us what they are. Markham is clearly aware of this difficulty:

We seem to have only two options: does this coherence mirror the world or is it imposed? A Kantian type anti-realist would insist that it is the latter. Or at least she would say that we cannot get beyond our mentally created 'coherent explanations' to find out what reality is really like¹⁷⁶

¹⁷⁵ Ibid., p. 61.

¹⁷⁶ Ibid., 63.

There is, though, a third option here; a version of pragmatism which will underpin the positive proposal of this thesis. Obviously this new approach rejects the former representationalist option but it also rejects the latter, anti-realist option voiced by Markham. Once we have abandoned the idea that reality imposes itself upon us, that it somehow impresses its nature in our vocabularies there is no need to adopt the extreme opposite view, characterised here as 'anti-realism'. We do not impose coherence on the world any more than we 'create' objects with language (this may be possible for the sort of anti-realist with linguistic-idealist tendencies that Markham talks about). As we will see in our section on Rescher (Chapter Four) and we did see with Devitt, there is something about realism that we are supposed to find instinctively appropriate. Without realism, we are told, it is unthinkable that we would be able to communicate with each other, let alone represent the way the world really is. But this is simply not the case. We should not be surprised that our ways of coping with aspects of the world work, because, in a circular manner, that is why we have come to use them. The rational structure that realism sees our vocabularies pointing to is not something tantalizingly out of reach but is a tool in the form of reasonableness (in Rorty's sense) that is within our grasp. To say that human logic or 'reason' is universal should not imply that this is because it reflects reality or the true nature of things but rather it should carry no more significance than saying that hands are a universal feature of humankind. The paradoxical result of the realist, theological (in Rorty's sense) desire to elevate the status of certain descriptions is that we are now faced with the modernist problem identified by Markham. In human terms, the new fundamentalism of scientism is the logical terminus of the realist urge to discover what it is we *really* are. Realism is always going to be under threat from some sort of reductionism; are we *really* selfish genes or Christian subjects? A more pragmatic

approach keeps the questions and the conversations open; realism closes them down.¹⁷⁷

¹⁷⁷ Rorty nicely encapsulates this distinction: 'Noting that the same thing can be described in lots of different ways is the beginning of philosophical sophistication. Insisting that one of these ways has some privilege other than occasional utility is the beginning of metaphysics.' Rorty, Richard 'Response to Hilary Putnam' in Brandom, Robert (Editor) (2000) Rorty and His Critics, p. 88. Oxford: Blackwell.

Conclusion

Now that we have exposed the problems associated with Markham's critical realism we must examine how this impacts on his wider theistic thesis and his proposed natural theology.

Markham's position shares many of the difficulties faced by Descartes in his 'Meditations'.¹⁷⁸ Descartes wanted to establish a point where scepticism could be banished and where certainty could take over. The one area of knowledge that he felt could be relied upon was that facilitated by the use of reason. For Descartes, reason was special because it was the medium through which we could come to know God. The validity of reason was itself confirmed because of the concept of God as a perfect, benevolent being who would not allow us to be deceived. The circularity of this argument (we need God to give credence to reason and reason to establish the idea of God) illustrates how representational pictures of language can lead us into confusion. Markham claims that he does not want to establish a foundational model of rationality – he claims to be committed to a 'tradition-constituted' rationality. He also does not want to ascribe a realist status to logic despite arguing that is possible that our current logical categories might be false representations of their Real-world counterparts:

The logical processes are justified because they mirror the way the world is. The world is indeed coherent. It is a stable, explicable entity, which does not contradict itself. If the world were contradictory, then the logical processes would

¹⁷⁸ Descartes, René (Translator, Cottingham, John) (1991) Meditations On First Philosophy Cambridge: Cambridge University Press.

be misleading our mind. We would not be constructing a true picture of the world, because the coherence demanded by logic would be mind imposed. The point is simple: reality must be stable, coherent, and intelligible; otherwise our logical categories on which all truth claims depend are misguided.¹⁷⁹

In many ways Markham's 'tradition-constituted' picture of rationality should have led him to pragmatism and anti-representationalism rather than to a type of realism.

Rorty himself is in agreement with the originator of this tradition-based model – 'I agree with MacIntyre and Michael Kelly that all reasoning, both in physics and ethics is tradition-bound.'¹⁸⁰ The reason Markham has set up an opposition between realism, anti-realism and pragmatism is because he is *operating under a Cartesian picture which equates truth with objectivity and hence with the transcendent*. So it is not enough that our various vocabularies are useful and enable us to achieve certain things, they must also be capable of being ascribed the cachet 'Truth' if they can be shown to accurately represent Reality. Markham responds to Nietzsche as if he were setting a challenge for those wishing to re-establish the pre-modernity meanings of truth and reason. His solution to the problem of modernity and post-modernity is to rescue objectivity by resuscitating the Cartesian picture of God as the underwriter of human reason and the facilitator of our ability to discover Truth.

Where Devitt's bleaker version of realism started with, and focused upon, the reality of physicalism as a representation of Reality, Markham is more inclusive, seeing all

¹⁷⁹ Ibid., 64. Markham does not want Reality to be 'mind imposed' because this would be to ally ourselves with the anti-realists. The intriguing assumption is that we are able to engage with a Reality that is not a product of our minds and language, something that we have already established is not possible or at least something that we cannot conceive of through language (or the language of logic).

¹⁸⁰ Rorty, Richard 'Universality and Truth' in Brandom, Robert (Editor) (2000) Rorty and His Critics, p.20. Oxford: Blackwell.

vocabularies as attempts to represent Reality. However, the difficulty is that the resources of Reality and Truth are limited. Not all descriptions can be true so we have to make decisions. This is where the realist thesis breaks down because we realise that our reasons for considering something true do not come from outside our chosen vocabularies. We cannot call upon facts 'out there' to tell us when our representations are getting it right. All we are entitled to say is that certain vocabularies work and some do not in the same way as some tools enable us to accomplish a certain task and others are inappropriate. A hammer tends to be an effective way of knocking nails into wood. A banana would probably be less effective. This is not to say that Reality is hammer-like or that hammers are a better representation of Reality than bananas. The point is not facetious because it shows how the representationalist model is incapable of delivering what it wants. It wants to uncover something about the nature of Reality but all it can do is force us to decide which of our vocabularies really represents Reality and this has less to do with realism and more to do with pragmatic human concerns.

The difficulties with Markham's critical realism are even more pronounced than for the scientific realist because of his Christian theism. These problems are highlighted when we relate it to the question of other religions. As we have already noted, Markham identifies himself as an Inclusivist in the debate within Christian theology about other religions. Markham clarifies the debate's taxonomy thus:

Exclusivists are those who believe that only Christians are saved; inclusivists are those who believe that faithful adherents of a different faith tradition might be

'anonymous Christians'; and pluralists are those who believe that the major world faiths provide equally valid ways to salvation.¹⁸¹

As he rightly points out, the only options available to the critical realist are exclusivism or inclusivism. It is not possible to believe that one's religious tradition represents the true, albeit incomplete, nature of God whilst holding that a diverse selection of other religions also has a hold on this claim. To relate this back to Markham's thesis about 'tradition-constituted rationality' and the realist aspirations of 'world-views' we should think of religious traditions as attempts to explicate the nature of God and to express our relationship with the divine. It may be that different religious traditions have wildly different ways of representing God and greater or lesser degrees of descriptive content or coherence. Certainly there are many significant differences between the religious world-view of Mahayana Buddhism and the model of Christianity proposed by Markham. There is a serious difficulty here if we want to pursue representationalism. If all religions claim to represent the nature of ultimate Reality and yet they are significantly different then it follows that most of them must be, at the very least, misguided.. This is where the real incoherence of critical realism is exposed. There were problems before we introduced the theistic element. If we remember the earlier example given by Markham, of the difference between Eskimo and British uses of the word, 'snow'. Rather than seeing this as a difference between the needs of vocabulary users in different 'traditions' Markham pictured it as a contrast between different conceptions of Reality. In this example, whilst the representationalist picture was problematic (how do we discover the real truth about snow), for practical purposes, the difference was easily resolved. When

¹⁸¹ Markham, Ian (1998) Truth and The Reality of God: An Essay in Natural Theology, p. 124. Edinburgh: T&T Clark.

we turn to the theistic question from a realist standpoint the problems become intensified and less easy to resolve without exposing the redundancy of representationalism.

Markham's inclusivism is not just concerned with different religions and with the idea that all traditions are a variant of the Christian tradition, it is also more broadly metaphysical because it means that all traditions that subscribe to representationalism must also implicitly be theist.¹⁸² It is one thing to say that realism requires God but it is quite another thing to say that 'being religious' implies representationalism.¹⁸³ The argument of this thesis will show how it is possible to be religious without also being realist and without automatically falling into the caricatured anti-realism portrayed by Markham. The desire to ground religion in realism and realism in religion reflects a dissatisfaction with, or lack of confidence in, our ways of coping with the world. It is the same urge that we see in scientists such as Dawkins when he talks about the hugely useful tool of evolutionary theory as if it were a description of reality that supersedes that given in Genesis Chapter One.¹⁸⁴ It is the same urge that we shall see in Chapter Six, when we look at the dangers of elevating the Genesis accounts of Creation above evolutionary theory as a 'truer' representation of reality. The same driving force, though in a more subtle form, is found in scientist theologians, who try to fit science and religion into one super-vocabulary encompassing everything that represents Reality. The realist motivation is the same and the end result is the same even if the method and detail can be diverse. The casualty in these approaches is the integrity of the vocabularies. Science and religion are certainly not isolated

¹⁸² Richard Dawkins would disagree with this. See Chapter Six.

¹⁸³ We have shown how invoking God does not solve the intrinsic problems with representationalism.

¹⁸⁴ We look at Dawkins in Chapter Six.

discourses but they do have a certain degree of autonomy, which reflects their different uses. Overlap in terms of uses should not be interpreted as a conflict between competing representations of Reality. This would be to end the conversation.¹⁸⁵

So Markham's project, though neatly and elegantly argued, must fail because of the inherent philosophical contradictions in critical realism and the damaging implications it holds for religion. His suggestion that the potential difficulties between religions, that an inclusivist position might (there is no question that it will) create, can be resolved through conversation is not convincing since this assumes that the issue has not already been decided¹⁸⁶. Critical realism and the inclusivism that follows in its wake, as we have seen, mean the *end* of all conversations. A more pragmatic approach would be opposed to inclusivist (or exclusivist) models of religion including Markham's inclusivism, which ascribes representationalism to all vocabularies. The idea that we can confer truth-value on some vocabularies and not to others, based upon mysterious judgements about their ability to reflect Reality, is pernicious because it cultivates the ground for conflict between science and religion. As soon as we suggest that it is possible for some vocabularies to contain more Truth than others then it is only a matter of time before we reach an impasse because we find there are no objective criteria we can call upon to settle the issue. One of the reasons why critical realism has been so popular is because its adherents tell us that it

¹⁸⁵ The conversation is stopped because we are faced with two incompatible, different pictures of Reality that can only be justified from within the vocabulary or tradition from which they were issued. This is what Rorty means when he calls religion a 'conversation-stopper': 'One good way to end a conversation – or to start an argument – is to tell a group of well-educated professionals that you hold a political position....because it is required by your understanding of God's will.' Rorty, Richard (1999) Philosophy and Social Hope, p. 171. London: Penguin.

¹⁸⁶ 'To find a way forward, we need each other: we need conversation.' Markham, Ian (1998) Truth and The Reality of God: An Essay in Natural Theology, p. 128. Edinburgh: T&T Clark.

seems instinctively true. Perhaps it is now time to work against our instincts and propose a different picture of vocabularies and truth. So Markham, despite his ostensible intent otherwise, in the end reveals the great 'critical realism' weakness, namely, science becomes the model of knowledge and ontology. All other discourses are judged by this standard. The challenge is to find an alternative.

Chapter Four

Creating an Alternative: Towards a Model of Creative Tension

This thesis began by looking at the achievement of Polkinghorne. I attempted to show that despite his achievement, his attempts to provide scientific accounts of what “really happened” were problematic: These attempts were not entirely coherent and were guilty of undermining the central theological message of the sacred texts. The major reason, I suggested, for these problems is the ‘critical realism’ which underpins the Polkinghorne project. So in the last two chapters we have looked at critical realism. Defenders make much of ‘common sense’ and ‘losing touch with reality’ but so far, have ignored a pragmatic approach. The task in this chapter is to search for an alternative: To explore models of interaction between science and religion that facilitate both disciplines in their quest to become more useful and efficient vocabularies. In this chapter we will examine some possible candidates for this role. The three models we have chosen are approaches which do not rigidly conform to critical realism. However, as we shall show, they retain crucial elements of critical realism and as such are subject to similar criticisms to those already raised in the previous chapter. These are firstly, the ‘pragmatic’ idealism of Nicholas Rescher, the ‘postfoundationalism’ suggested by J. Wentzel Van Huyssteen, and finally, the ‘pragmatic’ model proposed by Eberhard Herrmann. We shall see that, although there is much of value here, they do not entirely succeed. The pragmatism of Rorty, I will argue in the next chapter, provides the basis of a competent model. However, we start with Rescher and his pragmatic idealism.

Nicholas Rescher and Pragmatic Idealism

Nicholas Rescher writes:

The pursuit of truth is the name of the game, the definite object of the whole project of inquiry. Here as elsewhere, we must preserve a clear division between intent and achievement. It is manifestly the *intent* of science to discern the real capital-T Truth about things. The “real Truth,” or authentic truth about reality, represents a conception to which we stand committed throughout the whole project of rational inquiry because it constitutes the aspiration of the enterprise aim - its ultimate target or telos - though not, to be sure, its actual achievement.¹⁸⁷

Rescher’s approach to the question of the status of science is a subtle and ingenious one. His thesis receives its fullest expression in his three-volume magnum opus, A System of Pragmatic Idealism. Here he describes the tensions between the cognitive, realistic model of science and science in praxis as a fallible, constructivist conceit. His proposed model integrates a realistic approach with elements of pragmatism. It is not strictly a pragmatic approach in, for example, a Rortian sense, because the pragmatic elements are only introduced as a conceptual prop, which are then removed once the realist picture is up and running.¹⁸⁸

¹⁸⁷ Rescher, Nicholas (1992) A System of Pragmatic Idealism: Volume 1: Human Knowledge in Idealistic Perspective, pp. 57-58. New Jersey: Princeton University Press.

¹⁸⁸ There are of course those who feel that this is what William James was really advocating: Pragmatism is a way of discovering what is really the case.

A key feature of Rescher's model is his picture of human rationality as something that enables us to appreciate and understand the world. Rationality is not something discontinuous with the world but rather it is something that has evolved as a feature of humanity that is survival conducive. The origins of rationality are explained in Darwinian terms and rationality has become one of the, perhaps *the* defining feature of humanity. Science is widely considered to be one of the most important achievements of human rationality. It has emerged in a modern form that seemingly enables us to understand and manipulate the natural world in unprecedented ways. The problem that Rescher sets out to explore is how our scientific concepts relate to the world 'out there' and, following on from this, how we classify scientific truth. A related issue is the prognosis for scientific development and whether we will ever see an end to science in a complete description of the natural world.

To understand Rescher, it is necessary to begin with his view of science. He starts by admitting that the common view of science is problematic. This common view sees science, using a geographical metaphor, as something that is exploring new terrains, through its research, and discovering new truths about the world. This 'hard' realist view makes certain assumptions about a putative pre-existing realm of truth that is somehow 'already there'; that is just waiting for a correct alignment of our scientific apparatus. This model of science gives us a picture of a discipline that is steadily progressing towards an ultimate goal, a final discovery that will complete the project. It is certainly a very attractive picture and to the layperson it may explain how science works and why it has been so successful. However, comparatively recent developments in the philosophy of science have cast this image of science in an unfavourable light. The work of Popper and Kuhn has undermined the view of

science as a steadily progressing practice. On the one hand, we are now all too aware of the social constructivist nature of science and as a result, we are wary of any claims that science will one day reveal a unified, universal and ultimate truth about nature. Even if the sought after mechanisms of nature turn out to be finite there is certainly nothing to guarantee that our cognitive schemes will eventually uncover them and in doing so reach an ultimate conceptual terminus - 'The analogy of terrestrial exploration is untenable. For in undertaking the cognitive exploration of nature, we are embarked on a quest that is, in principle, literally endless.'¹⁸⁹

One option for Rescher is to take the present failure of science, to perfect its form and to deliver on its promise to provide an exhaustive explanation of the natural world (and also to achieve predictive and pragmatic finality), as an indication that any form of realism is now untenable.¹⁹⁰ However, Rescher feels that this would be an unwise move since it is the notion of truth that underpins the entire scientific process and if we abandoned it we '....would lose our hold on the teleology of aims and goals that define the very nature of the enterprise of scientific enquiry.'¹⁹¹ Realism in some form or other is essential, then, to the pursuit of science. Science could not have enjoyed the success it has if it was not approaching some degree of verisimilitude about the world which is its subject. The basic, simple statement of scientific realism is that scientific theories are successful because they are true or at least approximately true.

¹⁸⁹ Rescher, Nicholas (1992) A System of Pragmatic Idealism: Volume 1: Human Knowledge in Idealistic Perspective, p. 76. New Jersey: Princeton University Press.

¹⁹⁰ On the subject of the 'perfectibility' of science, Rescher provides us with a helpful summary of the conditions that such a science might fulfil - see *ibid.*, p. 78.

¹⁹¹ *ibid.*, p. 57.

An interesting criticism of this position comes from Larry Laudan who argues that approximate truth is not a necessary or sufficient condition for success since a theory may be very successful without being 'true'.¹⁹² Laudan argues that even if truth were a possible explanation of a theory's success it is not the best or only one. There have been many historical examples of theories that have been very successful but have later turned out to be 'untrue' or in other words have been superseded by a new, 'truer' theory. The reason often invoked for the replacement of one theory (a) with another (b) is that (a) did not correctly *refer* to the phenomena it was seeking to explain. In fact, a stronger version of this might assert that (a) did not refer to anything since the description afforded by (b) demonstrates that the features described by (a) do not actually exist. So, if we follow a Kuhnian model of scientific development, that is, the revolutionary model, we can see how new theories can actually retrospectively nullify the referential status of their predecessors.¹⁹³

Banner argues that there is only a problem if we rely upon a descriptive theory of meaning. Using this kind of picture it is easy to be sceptical about claims made by theories for referential accuracy. If a theory which claims to be true or approximately true can be overturned by a subsequent theory that describes reality in completely different terms or shows it to have utterly different characteristics then we have to be wary about making future connections between a theory's success and its truth or referential accuracy. This tenuous quality of scientific theories is something that Rescher attempts to confront. How can science work when it so often seems to get

¹⁹² Banner, Michael C. (1990) The Justification of Science and The Rationality of Religious Belief, p. 50. New York: Oxford University Press.

¹⁹³ '....no one has been able even to say what it would mean to be "closer to the truth," let alone to offer criteria for determining how we could assess such proximity.' Laudan, Larry (1977) Progress and its Problems: Towards a Theory of Scientific Growth, pp. 125-126. Berkeley: University of California Press.

things wrong in such fundamental ways that call the whole process into question? He also has to resolve the issue of truth in science and justify the continuing status of science as truth-seeking in the face of such grave problems.¹⁹⁴

This is where we get to the heart of Rescher's picture of science and where we can see the scale of his problem. Rescher is committed to a form of realism in science that is almost moral in its tone. We must hold on to truth in science because its very foundation is providing answers or truths to our questions about the world. Science must also be seen as truth-giving to honour the teleological thrust that is again at the very core of scientific inquiry. Rescher's rhetoric on the subject of realism in science provides an interesting counterpoint to his ultimate pragmatically based model:

If science were not an attempt to get at the actual truth of things (an attempt that is, admittedly, imperfect and, as best we can tell, generally ends in failure), then the aim of providing information about the world and of answering our questions about how things actually stand would become altogether untenable. Our conception of the very nature of scientific inquiry would have to be abandoned - reference to science as a process of inquiry would go by the board.¹⁹⁵

¹⁹⁴ A possible escape from the damaging consequences of a descriptive theory of meaning might be sought in a causal approach that allows for mistakes in theories because it sees them as cumulative attempts to capture the same causal nexus. This idea, originally Putnam's, is suggested by Banner, Michael C. (1990) The Justification of Science and The Rationality of Religious Belief, pp. 59-60. New York: Oxford University Press. There are echoes here too of Lakatos' idea of a core research programme that is impervious to problems with the subsidiary theories that surround it.

¹⁹⁵ *Ibid.*, p. 57. Rescher's plea for the maintenance of realism in science amounts to a form of an ontological argument that defines science as something that uncovers truth, that captures nature in theory and is and must be a realist project.

There is a strong intuitive drive, it seems, to retain realism even though, as we have seen, there is a difference between a scientific theory being successful (useful for explaining pre-defined groupings of phenomena and for predictive purposes) and it purporting to describe the true nature of reality. A pragmatic approach does not employ science as a channel to reality. It is enough that science enables us to do certain things with a degree of success. Any further claims to objective truth are seen as irrelevant, 'epiphenomenal' attributes that do not really add anything to science in practice. Rescher's desire to hold onto the concept of realism is, as we have already noted, close to a moral imperative; it is certainly justified as something that is central to the integrity of science. Without the idea of 'the real' we lose the sacred objectivity that has defined science. As Rescher notes, 'In abandoning our claims to achieve at least as much as plausible estimates of the real truth, we would be reduced to talking only of what we (I, you, many of us) *think* to be so. The contrast between what we claim and what actually is so - the *real* truth of things - would no longer be available.'¹⁹⁶

Without the Archimedean point of the '*real* truth of things', then, we are left floundering and are forced to rely on mere agreement between those in the scientific community.¹⁹⁷ By maintaining the concept of objective truth we can uphold our faith in science (despite its admitted fallibility) but Rescher has yet to justify how science can still claim to aspire to be uncovering objective reality. It is one thing to include this trait within the ontology of science as an *a priori* but it is quite another to then see

¹⁹⁶ Rescher, Nicholas (1992) A System of Pragmatic Idealism: Volume 1: Human Knowledge in Idealistic Perspective, p. 58. New Jersey: Princeton University Press.

¹⁹⁷ Rorty would argue here that that is precisely how science operates anyway as does any other human discourse - through unforced agreement between its protagonists.

it vindicated in practice. Now we will continue to examine Rescher's formulation of realism and its standing in relation to his wider thesis.

We will start by looking in more detail at Rescher's novel blend of pragmatism, realism and idealism, beginning with the development of his theory from its realist roots. Rescher breaks down realism into two interlinked components - '....one existential and ontological, and the other cognitive and epistemic.'¹⁹⁸ There is a mutual dependency between the two components since if we believe we can gain knowledge about an independent reality it is logical to first accept that it actually exists. Also, as we have already seen, the existential/ontological nature of realism is something that we must endorse as an *a priori* to enable the process of knowledge-gathering enquiry. Rescher feels that a sort of *a posteriori* justification of realism can be drawn (perversely) from the practical fallibility of science. In glib terms, science reveals that there is an objective, mind-independent reality by failing to reveal it.¹⁹⁹ Clearly there is a danger here that we could collapse into scepticism. If we cannot obtain knowledge of this objective reality then it is difficult to see how we can know it actually exists. Rescher does stress that this serves only to reaffirm the foundational thesis of realism, that reality is external to and more than the human mind. We will return to this moot point later.²⁰⁰

¹⁹⁸ Rescher, Nicholas (1992) A System of Pragmatic Idealism: Volume 1: Human Knowledge in Idealistic Perspective, p. 256. New Jersey: Princeton University Press.

¹⁹⁹ *Ibid.*, p. 272.

²⁰⁰ Rescher does concede that this argument for realism does not actually demonstrate that an object is something that is trans-mentally real merely that our concept for it is a concept of something that is mind-independently real. See *Ibid.*, p. 274.

A crucial qualification that Rescher introduces here is his distinction between a ‘...*realism of intent* and a *realism of achievement*.’²⁰¹ There are, it seems, hierarchies within realism and the gradation of realism espoused by Rescher is informed by the earlier distinction he makes between ‘...’our conception of reality’ and ‘reality as it really is.’²⁰²

A pragmatic perspective does not deny that there is *something* ‘out there’. It does deny that our language can somehow capture or mirror it. Rescher wants to show that, despite the undeniable fallibility of science and the transience of scientific theories (and of some of the phenomena described in theories), this is not an argument for the wholesale rejection of science as a truth-seeking practice. Whilst some of the methods and theories of science may become redundant or be replaced, this does not demonstrate the failings of science but instead reveals how science works in the penultimate rather than the ultimate realm. To better envisage this model of science Rescher draws comparisons with what he terms ‘Schoolbook Science’.²⁰³

Schoolbook science, the necessarily general and simplified counterpart of technical or research science, allows for a degree of ontological realism (the objects described in theories *do* exist) whilst releasing us from a semantic realism that vindicates the contemporary theories that tell us about these objects.

²⁰¹ *Ibid.*, p. 285.

²⁰² *Ibid.*, p. 283.

²⁰³ *Ibid.*, p. 289.

Even as there is more to an apple or a piece of rock than our own potentially incorrect ideas about them, so there can be more to an electron or a gene than the current theories of science-as-it-stands envision.²⁰⁴

Rescher argues that the schoolbook science model illustrates how science, whilst not able to provide an ultimate narrative for mind-independent reality, can still tell us something about the enduring features of that reality. In very general terms, scientific features such as atoms will probably endure for some time even if the specific theories about the nature of atoms are subject to revision. At this level of operation there can be said to be a true realism at work. Rescher feels that we can say with some conviction that the various features broadly described in school textbooks are truly mind-independent aspects of reality.

Rescher wants to demonstrate that 'reality' is inescapably 'our reality'; that is, the real world is the world formulated through our conceptual frameworks. This is not to say that the real *itself* is conceptual or mental (the limiting factor of our exclusively human apparatus prevents us from making any such identification) rather than the medium of our conceptions of the world is also reflected in the 'message'. Rescher's version of idealism is one that recognises the dependency of the 'real' world upon our conception of it but also acknowledges the limits of our conceptual apparatus. These limits form the boundary between idealism and realism. *Ex hypothesi*, our

²⁰⁴ Ibid., p. 295. This argument is dependent upon a model of science as a 'bottom-up' practice, i.e., that it starts with the phenomenon and then formulates a theory that best describes the phenomenon. By Rescher's own admission, the 'top-down' or theory-ladenness nature of science (like most human practices) forges a dependency between phenomena and theories. '*The theoretical entities of natural science are neither more nor less than the theory-creatures conceived of by science as science conceives of them. And this means that they come equipped with the characterisation that the scientific theories of the day affirm. They are indissolubly locked to the theories in which they root.*', Ibid., p. 278.

knowledge, specifically our scientific knowledge of the world, is fallible, and as such we are forced to conclude that some elements of reality are beyond our conception.

We will pause here for a moment to consider this. Anecdotally, and often throughout a whole canon of work, many scientists claim to be realists and would perhaps balk at Rescher's diluted form of the philosophical stance.²⁰⁵ Realism seems to be the only perspective that concords with the scientific method and the apparent progress made by scientists. As scientific methods become more and more sophisticated and we are able to predict and control nature in new and exciting ways it appears counter-intuitive to question the idea that science is somehow revealing the nature of reality. That realism is a strong conviction amongst many scientists is not in doubt. What is in doubt is that it can be said to be anything more than that - a conviction. Realism is assumed because it somehow makes sense of the whole scientific practice. By abandoning realism we lose any kind of justification for doing science. It is not clear why this should be the case. We do not necessarily have to accept realism to practise science. Rescher's justificatory argument does not really tell us why the pragmatic effectiveness of science should be linked to realism. Instead, realism is assumed as the best explanation for the 'success' of science and is presented as a useful 'tool' to enable science to proceed meaningfully.

We shall return to Rescher's 'realism' later but at this stage it is necessary to examine the 'pragmatic' elements of his model. Rescher explains:

²⁰⁵ See Polkinghorne, Dawkins, *et al.*

Should this fact that we cannot claim that our science, as it stands, correctly depicts reality be construed to mean that science has the status of a merely practical device - a mechanism of prediction and control that is (or properly should be thought of as being) devoid of any actually descriptive purport?²⁰⁶

Rescher is clearly aware of the difficulties involved in maintaining realism in the face of its obvious problems. He is also well aware of the beguiling qualities of instrumentalism and the apparent escape it offers from these problems. However, although he acknowledges the importance of 'prediction and control' as scientific qualities he does not want to reduce science to this narrow definition. Science is more than just instrumentalism. As Rescher has been arguing, its primary motivation is the pursuit of information about objective reality, at least at the aspirational level. The pragmatic redefinition of science omits that which is central to the pursuit of science. Even though Rescher freely admits that science falls short of its central remit, to furnish the truth about reality (and as we have seen it will always fall short), this does not nullify the motivation and lead inevitably to pragmatism.

Where Rescher does find some sympathy with a pragmatic approach is in, ironically, his initial assertion that it is useful for science to proceed as if the realist hypothesis were true. Rescher's adoption of realism, as we have already noted, does not rest upon some kind of evidential support but is rather a moral, foundational impulse.

Rescher notes the reasons for the pragmatic adoption of a realist model:

²⁰⁶ Rescher, Nicholas (1992) A System of Pragmatic Idealism: Volume 1: Human Knowledge in Idealistic Perspective, p. 286. New Jersey: Princeton University Press.

1. To preserve the distinction between true and false with respect to factual matters and to operate the idea of truth as agreement with reality.
2. To preserve the distinction between appearance and reality, between our picture of reality and reality itself.
3. To serve as a basis for intersubjective communication.
4. To furnish the basis for a shared project of communal inquiry.
5. To provide for the fallibilistic view of human knowledge.
6. To sustain the causal mode of learning and inquiry and to serve as a basis for the objectivity of experience.²⁰⁷

Realism is useful because it provides us with an objective reference point against which to measure our theories. Without this belief Rescher feels that science could not function and would descend into confusion and disagreement. However, as he admits we have no independent way of discerning this putative objective reference point, we can only see it through the fallible perspective of theories. Whilst it is the intention of scientific theories to describe what is real our limitations prevent the realisation of this project. This is entirely in keeping with Rescher's conception of perfected science as an aspirational form and also with his plea that we adopt realism because it is the only model that truly represents what science is actually trying to do.

The utility of a realist model is justified, Rescher argues, in both practical and theoretical regards. This so-called 'retrojustification'²⁰⁸ is presented by him as support for the initial motivation for being a realist. So by applying a realist model experimentally we find that science does actually work, it enables us to do things such

²⁰⁷ *Ibid.*, p. 264.

²⁰⁸ *Ibid.*, p. 266.

as predict and control states of affairs and it also provides understanding about these processes. Rescher feels that this observation serves to retrospectively vindicate the initial pragmatic espousal of a realist hypothesis. There are clearly problems with this, which we shall return to in our concluding section. For the moment we will just note that one of the principal problems, it seems, is with the idea that the success of scientific theories proves that realism is true. There are many reasons why scientific theories are successful and as we have seen the successful scientific theories of one age become the textbook examples of how 'wrong' we were in another age. As we noted in our section above, on the 'status of science', there is a difference between a theory being successful and it describing the true nature of objective reality.

Thus far we have looked at Rescher's 'realism' and 'pragmatism'. It is now necessary to examine another of his key terms, namely 'idealism'. He uses it in two distinct ways. On the one hand there is the general, less technical sense of the ideal as the putative completion of the scientific project to capture the 'real truth' about things. In this sense idealism is invoked to describe a future state that will, according to Rescher, never be obtained. It acts as a useful fiction to drive science. For Rescher, the realist position that holds that science uncovers the true nature of reality is itself an idealisation of scientific practice that is a proclamation of intent rather than a description of an achievement. As we have seen, realism is not something that arises out of science; it is assumed to be a helpful way of conceptualising scientific activity. The benefits of subscribing to such an ideal are not found in actual attainment but as an encouraging guide to our enquiries. There is no sense in which the ideal is to be considered an end in itself, in Platonic terms, as the ultimate good to be sought above

all else. Instead it is viewed as a pragmatic device to facilitate and vindicate science.²⁰⁹

The second sense in which Rescher uses idealism is in the more technical, philosophical sense that describes, in his words, ‘....the doctrine that reality is somehow mind-correlative or mind co-ordinated.’²¹⁰ He feels that there is a strong link between realism and idealism because our attempts to describe reality are always conceptualisations. Our pragmatic adoption of realism is itself a step that reflects our conceptual constitution and our belief that it will serve as the best methodological prop. This is really just another way of phrasing the Kantian observation that the sort of reality we know is shaped and coloured by our conceptual apparatus.²¹¹

Rescher’s idealism is admittedly a very low-level version of the thesis. The substantive, ontological version of it, as exemplified by Berkeley, maintains that for something to be real it must be perceived.²¹² For Berkeley the perceptual underwriter of reality is God. Rescher, clearly not wanting to stray into the minefield of theism, prefers the ‘....more sensible....’to be is to be perceivable.’²¹³ Reality in this sense

²⁰⁹ Laudan is more circumspect about the benefits of setting such aspirations - ‘But what I am suggesting is that we apparently do not have any way of knowing for sure (or even with some confidence) that science is true, or probable, or that it is getting closer to the truth. Such aims are *utopian*, in the literal sense that we can never know whether they are being achieved. To set them up as goals for scientific inquiry may be noble and edifying to those who delight in the frustration of aspiring to that which they can never (know themselves to attain); but they are not very helpful if our object is to explain how scientific theories are (or should be) evaluated.’ Laudan, Larry (1977) Progress and its Problems: Towards a Theory of Scientific Growth, pp. 126-27. Berkeley: University of California Press.

²¹⁰ *Ibid.*, p. 305.

²¹¹ Even though we are not concerned here with Rescher’s attitude towards religion there are similarities here with Eberhard Herrmann’s model for the interaction between science and religion. We should also note resonances with the work of J. Wentzel Van Huyssteen. We shall examine their positions in more detail later.

²¹² See Berkeley, George (1993) Philosophical Works Including the Works on Vision London: Everyman.

²¹³ Rescher, Nicholas (1987) Scientific Realism: A Critical Reappraisal, p. 149. Dordrecht, Holland: D. Reidel Publishing Company.

depends upon the possibility of an experiential contact between knower and known - '....reality or existence does not involve a physical dependency on actual minds, but rather a *conceptual* dependency on the possibility of mental access. The very notion of observability....is *constituted* in a way that makes reference to a mind-operated process. And so, to take this position and to co-ordinate real existence with a mental process (i.e. observation, perception, experimental encounter, or the like) is to become a "*conceptual* idealist" in the sense of according mind-involving operations a key role in the explanation of what it is to be real.'²¹⁴ This is a development of Rescher's earlier remarks about the human concept-ladenness of science.

These, then, are the key concepts that shape Rescher's contribution to this debate. The question we must put is: Is his position really any different from the critical realist frameworks that are found in a range of writers? The answer is NO. Where Rescher's proposal that his model of schoolbook-science should form the basis for a realist science we argue to the contrary that it should instead lead him to a truly pragmatic approach to science. Where Rescher argues for a quasi-critical realism that leaves the objects contained within scientific descriptions oscillating somewhere between the realm of naïve realism and instrumentalism he should proceed to a pragmatic conclusion. Rescher's 'pragmatism' in this sense is more akin to expediency rather than an analysis of science in terms of its application and usefulness in coping with certain prescribed problems. The acceptance of science as a cognitive and reality-finding vocabulary if presupposed because it is logical to suppose so:

²¹⁴ Ibid., p. 150.

The foundations of objectivity do not rest on the findings of science. They precede and underlie science, which would itself not be possible without a precommitment to the capacity of our senses to warrant claims about an objective world order. Objectivity is not a *product* of inquiry; we must precommit ourselves to it to make inquiry possible. It is a necessary input into the cognitive project and not a contingent output thereof. The objective bearing of experience is not something we can preestablish; it is something we must presuppose....²¹⁵

The logical positivists argued that only tautologies and the verifiable propositions of empirical science should be considered meaningful and 'literally applicable' uses of language. The result being that all those vocabularies which fell short of this prescription were condemned to flutter in a meaningless miasma. Michael Devitt bases his realism on the foundation of science as that which should serve as the natural candidate through which we naturalize our epistemology. Rescher's model of Pragmatic conceptual idealism attempts to do a similar thing but this time in the dazzling and misleading guise of a 'pragmatic' approach.²¹⁶ The problem is that all are still in thrall to a representationalist picture of science and vocabularies generally and all require that reality is somehow answerable to the questions that we put to it or as Rescher puts it '...Mind proposes, but reality disposes.'²¹⁷ The already noted, moral or value-based reason for why we should accept realism, however, does not satisfy. Critical realism, whether it be in its relatively straightforward form, as represented by the scientist theologians, or in a 'pragmatic' form as represented by Rescher can only create problems. These problems are intensified when a critical

²¹⁵ Ibid., p. 128.

²¹⁶ Another, similarly 'pragmatic' approach has been suggested by Eberhard Herrmann. We shall come to this later.

²¹⁷ Rescher, Nicholas (1992) A System of Pragmatic Idealism: Volume 1: Human Knowledge in Idealistic Perspective, p. 324. New Jersey: Princeton University Press.

realist approach is applied to religious and scientific vocabularies at their point of interaction. Someone else who has attempted, like Ian Markham, to deal with the confrontation between post-modernity and critical realism is J. Wentzel Van Huyssteen. His model is inspired by a 'postfoundationalist' notion of rationality.

Van Huyssteen and Postfoundationalist Rationality

J. Wentzel Van Huyssteen, the James I McCord Professor of Theology and Science at Princeton Theological Seminary, is also concerned with finding new ways of looking at the science and religion dialogue but his proposal takes a rather different route. His explicit concern is with post-modernity and its effects on the debate. In Duet or Duel: Theology and Science in a Postmodern World, his 1998 Diocese of British Columbia John Albert Hall Lectures, he locates the contemporary problem for theology in the twin issues of post-modernity's radical pluralism and the collapse of foundationalism.²¹⁸ On the one hand, theology is marginalized as the propagator of a specific, privatised form of knowledge while on the other, the possibility of finding some universal grounding for a human rationality has been lost. The result is that knowledge, or the resources for attaining knowledge, have become fragmented, making it increasingly difficult (and incoherent) to argue for interdisciplinary dialogue. His solution points to interdisciplinary dialogue as a way of recovering a comprehensive approach to knowledge that '...would be neither modernist nor foundationalist.'²¹⁹ Van Huyssteen sees evolutionary epistemology as an important

²¹⁸ Van Huyssteen, J. Wentzel (1998) Duet or Duel: Theology and Science in a Postmodern World London: SCM Press.

²¹⁹ Ibid., p. xiii.

route towards understanding human knowledge and theology which he argues is also ‘...grounded in biological evolution.’²²⁰

Van Huyssteen wants to establish a safe epistemological space where science and religion can meet and establish an interdisciplinary dialogue. However the problem of finding an epistemological common ground between science and religion is difficult. At the very heart of the problem identified by Van Huyssteen is the idea that science and religion have wildly different epistemological structures.²²¹ His solution is not to resort to the ‘radical relativism’ of non-foundationalism or to the pragmatic approach favoured by this thesis, but to work through postfoundationalism which wants to, in Van Huyssteen’s words:

first, fully acknowledge contextuality and the embeddedness of both theology and all the sciences in human culture;

second, affirm the epistemically crucial role of interpreted experience and the way that tradition shapes the epistemic and non-epistemic values that inform our reflection about both God and our world;

²²⁰ Ibid., p. xiv. It may well be that Van Huyssteen’s postfoundationalism is simply foundationalism reborn in a different guise. The desire to find some sort of grounding for knowledge, something that will halt the epistemic regress is the essence of foundationalism. The test of a foundational belief is that it can be justified without reference to any other conditions; it does not require the invocation of new beliefs and premises. Van Huyssteen does come dangerously close to adopting the sort of naturalized epistemology held by Devitt. The position he ends up inhabiting is more of a hybrid of Devitt and the position held by Rescher. For more on foundationalism and the notion of epistemic regress see Bonjour, Laurence ‘The Dialectic of Foundationalism and Coherentism’ in Greco, John & Sosa, Ernest (Editors) (1999) *The Blackwell Guide to Epistemology*, pp. 117-142. Oxford: Blackwell.

²²¹ His realism, though highly nuanced and elegantly formulated, forces him to attempt to reconcile one with the other. This creates difficulties because from a realist perspective, the scientific way of knowing is not applicable in a religious context and attempts to use science to demonstrate religious truths or to harmonize scientific with religious epistemologies end in the sort of difficulties represented by positivism and more latterly by the critical realist scientist-theologians.

third, at the same time creatively point beyond the confines of the local community, group, or culture, towards a plausible form of interdisciplinary conversation;

fourth, find the epistemological warrant for this interdisciplinary conversation in the biological sources of human rationality.²²²

Van Huyssteen's postfoundationalism begins, promisingly, with its Kantian acknowledgement that we always relate to the world through an interpreted experience and that we have no vantage point for making evaluations outside the context of specific traditions. Thus far he is in agreement with Rorty. However, it is when he begins to lay the grounds for the safe epistemological space, referred to above, that his model becomes problematic. He sees the sort of interdisciplinary dialogue that has been taking place between cosmology and religion and, more interestingly, between evolution and religion as grounds for some sort of comprehensive epistemology. Van Huyssteen believes that this sort of conversation can only take place because all of our vocabularies are attempts to make sense of the same world. It is not enough to think of them as discrete, self-contained language games.²²³ As we have already indicated, Van Huyssteen's proposal for a postfoundationalist model of human rationality draws heavily on the theory of evolution and evolutionary epistemology. Since his argument for a comprehensive epistemology depends upon the possibility of a certain kind of rationality we should first examine his thoughts about the nature of human knowledge.

²²² Van Huyssteen, J. Wentzel (1998) Duet or Duel: Theology and Science in a Postmodern World, pp. 23-24. London: SCM Press.

²²³ Van Huyssteen is certainly sympathetic to the work of the critical realist scientist-theologians such as John Polkinghorne and their reappraisal of natural theology. However he does sound a note of caution when he warns that we should not be over eager to try to translate scientific concepts into theological doctrines. At any rate, he argues, we should be careful about how directly we infer from scientific epistemologies to religious ones.

Van Huyssteen writes:

The simple message of evolutionary epistemology is that the information that living organisms get from the world is sufficiently accurate to allow for survival and reproduction. The world in which we live indeed seems to be intelligible, at least to some extent, and the structures of this world do not seem to exist only in our imaginations. As epistemological fallibilists we also know, however, that even in science it is never possible to arrive at a complete and definitive understanding of reality. But precisely the epistemological ramifications of the process of evolution allow us to hypothesize about the reality of our world....Human rationality, when defined as our ongoing quest for the deepest and most accurate level of understanding, thus emerges from the heart of evolution by natural selection.²²⁴

Van Huyssteen is interested in explaining how it is that certain discourses seem to work well together and, despite their seemingly diverse epistemological backgrounds, seem to be attempting to explain the same 'reality'. Where the overtly pragmatic model, that I will be developing in the next chapter, explains this in terms of overlapping intents behind autonomous vocabularies, a realist thesis, such as Van Huyssteen's, requires an explanation that relates what this tells us about 'reality'. In Chapter Six we will look in some detail at the specific intensification of the relationship between science and religion that takes place when looking at the question of human origins. As we have seen, the theory of evolution is an

²²⁴ Van Huyssteen, J. Wentzel (1998) Duet or Duel: Theology and Science in a Postmodern World, p. 159. London: SCM Press.

immensely useful scientific tool that has enabled us to deal with many of the problems associated with the issue of human origins. The Christian doctrine of creation is also concerned with the question of human origins and though its intention is to focus on the implications for a future relationship between God and humanity, both vocabularies share a common interest, Van Huyssteen argues, in 'life processes.' The route for avoiding conflict between the two discourses is a familiar one. This thesis has spent considerable time elucidating how writers such as Polkinghorne have sought to resolve any such possible conflict by offering theological reinterpretations of scientific narratives. In this way, evolution or the natural laws revealed through evolution are interpreted as the channels for God's activity. Van Huyssteen's version of the thesis, as we shall see, is more rarefied and philosophically dense. For the moment it is important that we clarify his position in full:

I believe that a theological redescription of the process of evolution, and a creative complementary evolutionary biology, could be eminently rational and could offer a persuasive alternative to resolutely scientific or radically naturalistic readings of the same material. I therefore accept the theory of evolution as one of the major insights of contemporary science. I also believe that a responsible theological redescription of these issue should make it clear why the idea of God, and of God's presence in this universe, can move us beyond disputes like whether evolution operates through blind chance or providence, whether naturalism or supernaturalism are the only options available to Christian believers, and whether we should, therefore, feel forced to choose between these two narrow options as the only available constructs for explaining the origin and evolution of life on our planet. I therefore believe that evolution, rightly understood, can enrich our

religious faith considerably, and may actually set the stage for a friendly and rewarding 'duet' between religion and science.²²⁵

The observations, voiced by Van Huyssteen, about the explanatory enrichment that can result when the theory of evolution is combined with Christian theology, are nothing new. Where Van Huyssteen carves out a particular niche in the pantheon of realist theologians is in his grounding of all epistemology in an evolutionary epistemology. In this respect our ability to know and our rationality have their roots, through biology and evolution, in natural selection. Van Huyssteen's model of evolutionary epistemology is offered as a postfoundationalist route to the sort of comprehensive epistemology that is required to explain the phenomenon of interdisciplinary activity and the faculty of a shared rationality that is implied by such activity.

As we have seen, Van Huyssteen maintains that his postfoundationalism must be grounded in a community context but it is also grounded in the biological roots of human rationality. So human mental capabilities and our ability to know things are shaped by and limited by the physical processes that drive evolution. In order to understand epistemology we must also understand evolution. If our ability to think and to know is reliant upon, and constrained by, biological evolution then so must our vocabularies and our scientific and religious ways of knowing. However, Van Huyssteen notes, with caution, that this should not lead us to conclude that evolution explains everything and that even though evolution tells us something about the development of our mental faculties it does not tell us everything about our ways of

²²⁵ *Ibid.*, pp. 83-84.

knowing the world.²²⁶ So far, so good. It is not however clear, yet how Van Huyssteen intends to relate these insights to his central interdisciplinary thesis. In order for it to gain any ground he has to explain how an apparently naturalistic narrative, such as the evolutionary description of human consciousness, can sit with a ‘supernatural’ narrative. His solution lies in the idea that the process of evolution itself ‘...can be seen as a knowledge process.’²²⁷ In other words, our knowledge of the world is not a product of chance but is:

‘...a fundamental facet of reality. In this sense our species can certainly be seen as carrying the spark of rationality that provides the key for understanding ourselves, our world and the universe.’²²⁸

To put it simply, Van Huyssteen’s epistemology is a naturalized epistemology. We have seen various attempts to find some sort of grounding for realist theses. Devitt invoked science itself as the starting point and the ground of epistemology (another version of naturalized epistemology); Markham found it in the apparent universality of logic and now Van Huyssteen attempts to do the same thing, this time using the process of evolution as a way of underwriting realism. Evolution provides us with the necessary tools for exploring and understanding reality but the scientific vocabulary of evolution cannot seem to explain how this came about: ‘...although evolution can explain why we have, for instance, developed reflexes to dodge falling rocks, it cannot explain why we can understand the laws which govern falling bodies....’²²⁹

²²⁶ Ibid., pp. 136-137.

²²⁷ Van Huyssteen, J. Wentzel (1998) Duet or Duel: Theology and Science in a Postmodern World, p. 138. London: SCM Press.

²²⁸ Ibid., p. 138.

²²⁹ Ibid., pp. 138-139.

In order to develop this approach, Van Huyssteen identifies two distinct but related programmes in contemporary evolutionary epistemology. The first concerns the already mentioned attempt to account for the mechanisms of cognition in humans and animals in terms of evolutionary biology. The second attempts to give an explanation of human culture in evolutionary terms but in such a way that does not reduce it to sociobiological or organic descriptions. Van Huyssteen here draws on Franz Wuketits' version of evolutionary epistemology which he calls a 'systems theory of evolution'.²³⁰ Wuketits argues that Darwinian evolution can only take us so far. He claims that adaptationism and environmental change are not in themselves sufficient evolutionary pressures. In order to account for the complexity of cultural evolution we must go beyond the principles of organic evolution: '...Cultural evolution indeed exhibits its own characteristics and systems conditions.'²³¹ Although, as Van Huyssteen notes, Wuketits ends up being rather reductionist when it comes to relating his 'systems theory' back to the issue of different epistemologies, his insights enable Van Huyssteen to affirm his thesis that evolution can illuminate the beginnings of human cognition but it cannot explain the subsequent diversity of human culture. Indeed, Van Huyssteen suggests that cultural evolution may even act as a feedback mechanism, as a cognitive process influencing the course of organic evolution. This last assertion is dependent upon another, not uncontroversial model of the epistemological process, that describes it as 'information processing'. It also leads into Van Huyssteen's central thesis for postfoundationalism and a comprehensive epistemology:

²³⁰ Ibid., p. 142. See Wuketits, Franz, M. (1990) Evolutionary Epistemology; Its Implications for Humankind Albany: SUNY Press. It is not necessary here for us to go into the details of Wuketits' programme. What is important for our thesis is the application that Van Huyssteen finds for Wuketits' insights.

²³¹ Van Huyssteen, J. Wentzel (1998) Duet or Duel: Theology and Science in a Postmodern World, p. 146. London: SCM Press.

The thesis that evolution is a cognition process obviously implies that knowledge, and the ability for gaining knowledge, is an information-processing process that would increase an organism's fitness. And already at the pre-rational level, information processing is characterized as a cycle of experience and expectation. So when we come to the uniqueness of human knowledge, this process of knowledge gaining as information processing turns out to be a universal characteristic of all living beings, which means that human rationality too has a biological basis. And precisely because human rationality everywhere shares deeply in this biological basis, human rationality as such reveals a universal intent that links together all our diverse and complex epistemic activities.²³²

There is a great danger, as Van Huyssteen himself acknowledges and this thesis has shown in detail, in importing scientific concepts into other sorts of narratives. Van Huyssteen is opposed to the sort of evolutionary reductionism, practised by Richard Dawkins (see Chapter Six). He exposes the flawed reasoning that reduces all human culture to biological explanations but then isolates some aspects of culture as being more valid or more truth-bearing than others.²³³ The problem, as we have seen, comes not from using the insights of other vocabularies to improve the efficiency of our own linguistic tools, but in the compromises and confusions that can arise when we try to make our vocabulary conform with other vocabularies. This is an example

²³² Ibid., p. 148.

²³³ This is the central problem of scientism redrafted. When science applies its own criteria for knowledge back upon itself, it is found wanting: 'So if experience, and the experience of living, is the basis of all our knowledge, then why should only our species' sensory knowledge and its knowledge by scientific inference suddenly be 'rational', and religious knowledge be isolated as knowledge gained by 'mere belief', and therefore irrational.' Van Huyssteen, J. Wentzel (1998) *Duet or Duel: Theology and Science in a Postmodern World*, p. 156. London: SCM Press. For a definitive statement of Dawkins' approach see Dawkins, R. (1991) *The Blind Watchmaker* London: Penguin

of the interactive process becoming not so much creative as destructive. The desire to make religion 'fit' within the confines of the detail of specific scientific theories reflects a desire to attain the hard objectivity of representationalism. As we saw in our section on Michael Devitt, there is a danger in basing a position upon a currently popular scientific theory, or the doctrine of materialism itself. Van Huyssteen tries to avoid this peril by jettisoning biological evolution at the last moment in order to create some space for religion. He argues, as Ward did, that his God is not a 'God of the gaps' but is at the heart of the creative process in the universe but he ends up being caught in the same trap as his peers.²³⁴ Scientific descriptions of 'reality' can take us quite far but when they start to conflict with religious pictures of 'reality' they are found to be inadequate and must be abandoned. So although Van Huyssteen is happy to reduce human patterns of thought to the level of 'information-processing', borrowing an analogy from mathematical and computer models, he does not want to reduce thought to a biologically determined process.²³⁵

Van Huyssteen wants to argue that we and all our cultural artefacts are products of biological evolution but that this does not discount the possibility of a human rationality that transcends its biological origins. Where Wuketits follows evolutionary epistemology to its naturalistic conclusions by saying that we do not need to invoke any trans-scientific vocabularies to explain rationality, Van Huyssteen wants to retain something of the transcendent. His argument is that the natural history

²³⁴ As Ward says, '...in and through the process of cosmic causality, God constantly exercises a guiding influence, seeking to maximize good and eliminate evil, to the greatest extent compatible with preserving the autonomy of cosmic laws and the freedom of rational creatures.' Ward, K. (1996) God, Chance and Necessity, p. 202. Oxford: Oneworld.

²³⁵ Roger Penrose has written extensively on the problems associated with identifying thought with information processing. Although his conclusions are Platonically minded, the criticisms still stand as it represents a confusing and damaging attempt to explain human experiences in such a way as to make them somehow more 'real'. See, for example, Penrose, Roger (1987) The Emperor's New Mind: A Search For the Missing Science of Consciousness London: Vintage.

of religious belief should count against its wholesale rejection since religion, like any of our other 'phylogenetic memories' is a product of our species exposure to the environment.²³⁶ Religious and theological reflection are just as valid as science because they too share in the resource of human rationality that has its roots in the same evolutionary processes. Van Huyssteen could have taken two possible routes here. He could either have adopted a full blown scientific naturalism or, as he has chosen to do, attempt to feed this back into a 'postfoundationalist' theory of epistemology which begins to sound suspiciously more like unreconstructed foundationalism. A true postfoundationalist approach might have been to identify epistemology with hermeneutics and denounce the idea of any foundational neutral language game whether it be a scientific one or the comprehensive epistemology of Van Huyssteen. Van Huyssteen's evolutionary epistemology may not take us back to 'modernist notions of universal reason' but it does go some way towards re-establishing the idea of a vantage point that transcends the causal relationship between ourselves, our environment and the interplay of our vocabularies. The effect of Van Huyssteen's evolutionary rationality and the 'safe space' it provides for the dialogue between science and religion is the same as that provided by the Enlightenment idea of universal reason and Markham's idea of universal logic. Though Van Huyssteen's approach is cloaked in the objectivity and cash-value of the currently popular branch of science that deals with evolutionary biology, his aim is still to provide some sort of

²³⁶ Van Huyssteen, J. Wentzel (1998) Duet or Duel: Theology and Science in a Postmodern World, pp. 156-157. London: SCM Press. The real danger here is that science attempts to give explanations in naturalistic terms. It is not designed for coping with the sort of concepts that inhere in a religious discourse. Van Huyssteen is wrong to criticise Wuketits for rejecting religious concepts from his evolutionary, naturalistic narrative even if he rightly points out that scientific narratives do not negate religious narratives. In order to make the move to this latter pluralistic position, however, he would need to adopt the pragmatism of the Creative Tension Model and abandon his realism.

legitimation for religion and theological narratives that transcend the use and the meaning for which the vocabularies are designed.

Abandoning realism and representational models of language does not necessarily plunge us into the caricatured ‘...relativist, isolated and sectarian notions of rationality’.²³⁷ Relativism should not be thought of as a synonym for chaos, or crippling uncertainty but rather as a way of promoting openness to new ways of using our language tools. Epistemology as hermeneutics releases us from the torturous task of formulating a base to support the possibility of knowledge. Rather than seeing knowledge only partially as interpretation and then invoking some external vantage point to retrospectively legitimate our interpretations (whether through logic or evolutionary postfoundationalism), it should be seen as something that is embedded in vocabularies. In this sense one could argue that hermeneutics does not replace epistemology but is instead *another* epistemology because it constitutes a meta-theory about our cognitive faculties. The rejection of epistemology as first philosophy, means we lose what Rorty calls the ‘pathos of distance’ between our ideas of what constitutes knowledge and that which we strive to represent in our ideas of knowledge.²³⁸ Epistemology in this sense is representationalism and when we reject representationalism we lose epistemology and with it the idea that our ways of talking about the world need some grounding or justification beyond their causal relationship. In this sense hermeneutics and relativism reveal as illusory the gap between our knowledge and the world. We were always in touch with reality in a causal sense so we do not need a meta-theory of epistemology to act as guarantor for interdisciplinary dialogue. The relationship between different discourses is not established

²³⁷ Ibid., p. 165.

²³⁸ Rorty, Richard ‘Response to Michael Williams’ in Brandom, Robert, B. (Editor) (2000) *Rorty and His Critics*, p. 216. Oxford: Blackwell.

in the sphere of a comprehensive epistemology but at the more mundane, reasonable level of a conversation. Van Huyssteen is important because he represents an attempt to engage with the post-modern and think through the relationship between theology and science. However, his emphasis on evolution carries with it something of the Logical Positivist Dispositions (LPD) that we have identified as a problem inherent to critical realism. We now turn to look at an alternative that actually uses the philosophy of pragmatism, the ‘pragmatic’ model suggested by Eberhard Herrmann, and see if it in any sense anticipates the Creative Tension Model, which I will develop in the next chapter.

Eberhard Herrmann’s Pragmatic Approach to Science and Religion

Eberhard Herrmann, the Professor of Philosophy of Religion at Uppsala, Sweden has advanced a model for the interaction between science and religion that seems, on the face of it, to be a truly pragmatic approach along the lines suggested by this thesis. Further investigation, however, reveals Herrmann to be a weak metaphysical realist holding the assumption that there is ‘...a reality that exists independently of us’²³⁹ combined with a bewildering collection of qualifications. As we shall see, Herrmann’s position, though intriguing and densely argued, ultimately ends up importing the sort of damaging realism that is opposed to the Creative Tension thesis. What is interesting about Herrmann’s approach is his shift of emphasis from the metaphysical to the epistemological and his adoption of the notion of ‘internal

²³⁹ Herrmann, Eberhard “A Pragmatic Approach to Science and Religion’ in Gregersen, Niels Henrik and Van Huyssteen, J. Wentzel (Editors) (1998) Rethinking Theology and Science: Six Models for the Current Dialogue, p. 131. Cambridge: Williams B. Eerdmans Publishing Company.

pragmatic realism'. His precise position is highly rarefied and needs further exploration.

Herrmann's aim in formulating this particular model is to provide a non-integrative scheme that concentrates on the question of what we can know. If we accept that our epistemic abilities are limited by our conceptual apparatus then we should be cautious about the sort of knowledge claims that we want to make. We might have ideas about what constitutes reality but these ideas are constrained by our epistemic framework. We can know some things, Herrmann argues, because we have criteria in place for making judgements about what counts as knowledge. In combining a weak version of metaphysical realism with an epistemological anti-realism, Herrmann hopes to reflect this tension between the notion of reality and the conceptual restraints on our knowledge of this reality. He hopes to release this tension through his 'Third Way' or his 'Internal Pragmatic Realism'. The anti-realist element of this approach highlights the centrality of language but this is tempered by a weak realism that provides an opening for some sort of correspondence.²⁴⁰ This adaptation of Putnam's 'internal realism' is intended to reconcile the idea that the conditions for objective knowledge are internal to our historical world-view with the notion of a reality that is depicted through this conceptual process.²⁴¹ There are great similarities here with Nicholas Rescher's model of pragmatic idealism: Reality is that which we conceptualise.²⁴²

²⁴⁰ Ibid., pp. 136-137. Herrmann's characterization of anti-realism is similar to Ian Markham's. In both cases it is presented in a very poor light and more importantly for this thesis, it is offered as if it exhausted all the possible alternatives to realism in one form or another. The sort of anti-representationalism espoused by the Creative Tension Model is not properly investigated.

²⁴¹ A good example of Putnam's work is Putnam, Hilary (1995) Pragmatism: An Open Question Oxford: Blackwell.

²⁴² See section above: 'Nicholas Rescher and Pragmatic Idealism'.

However, like Rescher, Herrmann is reluctant to give up on realism. He rejects critical realism and naïve realism because of their supposition that there is such a thing as unconceptualized reality but he holds on to a minimal correspondence notion of truth which asserts that ‘...the claim that a statement is true means nothing more and nothing less than that things are as they are stated by the statement.’²⁴³ The relationship between our concepts and the objects that they describe is a subtle, internal and intentional one. In this respect, Herrmann is closer to an anti-representationalist position than a realist one. This is demonstrated in his example that explores the scientific question of whether there might be another planet in addition to those already identified:

On the one hand, we are always dependent on our conceptual system in, for instance, our descriptions of outer space when talking about the existence of another planet. On the other hand, the existence of such a planet is not causally dependent on a conceptual system required to describe outer space. Nevertheless, when talking about the planet as existent, there is dependence in an intentional sense, that is, in relation to what we observe. Now our observations are not naked sense-data but theory-laden, in the sense that they are always framed by a given conceptual system. Therefore, the existence of the planet entails the existence of an object as a possible subject of direct or indirect observation according to the current theories about outer space. In summary, we can have the conception of

²⁴³ Herrmann, Eberhard "A Pragmatic Approach to Science and Religion" in Gregersen, Niels Henrik and Van Huyssteen, J. Wentzel (Editors) (1998) Rethinking Theology and Science: Six Models for the Current Dialogue, p. 137. Cambridge: Williams B. Eerdmans Publishing Company.

something's existence without giving up the thought that we cannot go beyond our epistemic abilities in statements about reality.²⁴⁴

Herrmann clearly does not want to go down the anti-realist road to linguistic idealism. He rejects the idea that we create objects by conceptualising them. At the other extreme he rejects strong metaphysical realism which claims that objects as we describe them exist independently of our descriptions and we can check the veracity of our descriptions against reality itself. His third way suggests, with Rescher, that the relationship between our description of an object, or the intentional relationship and the 'real' object, is an internal one. That is, our conceptualisation of the object presupposes the existence of the object. In other words, it is reasonable to assume that (to use Herrmann's example) if the scientific standards for observational evidence are satisfied then there probably *is* another planet.²⁴⁵ Realism, in this diluted sense, becomes a vague hypothesis about what is *probably* 'out there' and which legitimates our vocabularies. However, because of Herrmann's clever use of a pragmatic approach to the issue of epistemology this oblique concession to representationalism is sidelined. The acknowledgement that we can only access reality through our vocabularies and that reality is a feature internal to our vocabularies should lead Herrmann to pragmatism and Creative Tension but instead he chooses to dwell in the shadow of realism.²⁴⁶

²⁴⁴ *Ibid.*, p. 139.

²⁴⁵ This is very similar to Rescher's proposal that we should 'assume' realism to be correct because it seems to be the best explanation. There are problems with maintaining this position. See section above 'Nicholas Rescher and Pragmatic Idealism'.

²⁴⁶ Rorty and pragmatists in general have come under criticism for elevating anti-representationalism to a pseudo metaphysical principle. This is captured in the Kantian observation that we 'cannot describe the world as it is in itself'. Putnam argues that those holding this sort of position are making the mistake, identified by Wittgenstein, of attempting to negate a pseudo-proposition with another pseudo-proposition; the result of which, is nonsense: 'If we are persuaded that it is *unintelligible* to say "We sometimes succeed in describing reality as it is in itself", then we should realize that it is equally unintelligible to say

Despite the general realist undertones there is much to welcome in Herrmann's model; his picture of religion is particularly interesting. According to the epistemology of internal realism we are denied the possibility of '...physical contact with God.'²⁴⁷ However, God as experienced through a religious life, that is, as an intentional, internal object of religious stories logically presupposes the reality of God in the same way that our theories about planets presuppose the existence of planets. We cannot attain knowledge of the real but we can maintain our beliefs because they are reasonable. Herrmann defines the 'realism' of religious views of life in an existential context. The 'reality' of God and of religious vocabularies in this sense are found in the changes that they bring to human persons. There is a danger here and an uneasy tension between a Cupitt-like anti-realism, that identifies religion with the highest human aspirations, and the sort of representationalism that searches for surer, objective foundations for human knowledge.²⁴⁸ Religion is caught between being a 'useful fiction' and being something that mediates '...insights into what it means to be a human being.'²⁴⁹ Herrmann in a Wittgensteinian fashion acknowledges that the question of God's existence or non-existence is not the issue and that we should focus on the rather more pragmatic question of '...whether our religious and our

"We never succeed in describing reality as it is in itself", and even more unintelligible (more because it introduces the peculiar philosophical "can't") to say "We *can't* describe reality as it is in itself". Putnam, Hilary (1995) Pragmatism: An Open Question, p. 39. Oxford: Blackwell.

²⁴⁷ Herrmann, Eberhard "A Pragmatic Approach to Science and Religion" in Gregersen, Niels Henrik and Van Huyssteen, J. Wentzel (Editors) (1998) Rethinking Theology and Science: Six Models for the Current Dialogue, p. 140. Cambridge: Williams B. Eerdmans Publishing Company.

²⁴⁸ Cupitt has developed his anti-realism in a number of books. A good recent example of his position is provided by: Cupitt, D. (1998) The Revelation of Being London: SCM Press.

²⁴⁹ Gregersen, Niels Henrik and Van Huyssteen, J. Wentzel (Editors) (1998) Rethinking Theology and Science: Six Models for the Current Dialogue, p. 141. Cambridge: Williams B. Eerdmans Publishing Company.

nonreligious views of life succeed in providing us with pictures, stories and conceptions that adequately cope with the contingencies of life.²⁵⁰

Religious belief, thus formulated is not a knowledge-claim but is an insight that comes from the limitations of knowledge. It is the expression of an intentional, internally constructed reality. In some ways it seems that we should be welcoming towards Herrmann's approach. His employment of the word 'reality' does not seem to fit with standard representationalist programmes. We might question the use of the word at all because of its well-established connotations and the hint it provides of something that is outside the reach of human vocabularies. However, whilst Herrmann is superficially not a traditional realist he is certainly not a contemporary anti-representationalist pragmatist. This is borne out first, by his model of a pragmatic internal realism, and finally, by his suggestion for a division of labour between science and religion. We shall now look at both in turn.

Herrmann's pragmatic version of internal realism is set out as:

As far as pragmatism is concerned I want to avoid the following two things. First, I want to avoid defining truth in terms of the successful solution of problems. That we succeed in solving a certain problem is no guarantee of the truth of the statements involved in the proposals for a solution....Second, I want to avoid defining truth in terms of being experienced as meaningful or important. This

²⁵⁰ *Ibid.*, p. 141. This could have been written by Rorty.

would exclude the idea of objectivity because there are so many differences in our experiences of meaningfulness and importance.²⁵¹

A truly pragmatic approach would question the idea that we can give a meaning to truth that in some way transcends our vocabularies and the uses to which they are put. Herrmann admits to the paradoxical nature of defining truth as something that is there whether we can know it or not. Such a conception of truth also does not seem to tally with his idea of reality as conceptualised reality. He does not, however, want to conflate 'truth' to 'rationality' because he thinks that this would result in the sort of damaging pragmatic relativism that he is seeking to avoid. In distinguishing 'truth' from 'rationality' we do not exclude cases that are 'probable' and accept only those that are 'definitely decidable':

That we cannot identify the reasons for claiming that something is true with our reasons for considering it to be rational for us to believe that it is true, becomes particularly clear in situations in which there is a clash between different truth-claims and the clash is itself part of the problem. Just to point to the reasons for claiming that something is true as the only reasons for considering it rational to believe it being true, would only be to repeat the problem.²⁵²

Herrmann clearly wants to retain some sort of objectivity when it comes to truth-claims. Despite his rejection of the traditional conception of Objectivity as 'that which is true regardless of whether we know it or not', he is still anxious that we avoid the spectre of relativism. There is also a problem here with Herrmann's

²⁵¹ *Ibid.*, p. 144.

²⁵² *Ibid.*, pp. 144-145.

definition (or lack of one) of the concept of rationality. In refusing to identify our belief that something is true with our reasons for considering it rational to have this belief, he is attempting to drive a wedge between the role of truth in our “language games” (to use a Wittgensteinian image) and truth as it really is. This move has a suspiciously realist flavour about it and although Herrmann always claims that he is concerned with defining epistemic limits, he implicitly seems to accept models of truth that go beyond them. Though the usefulness, for Herrmann, of such an approach seems initially vague, it becomes clearer when we see how it sits with his distinction between science and religion.

The second and concluding area that requires discussion is Herrmann’s division of labour between science and religion. He makes a distinction between science and religion which removes the possibility of conflict between the two because it places them on different logical levels. Herrmann is quite clear on this: Science provides us with knowledge about the nature of reality whereas religion involves stories which illuminate what it means to be human. Herrmann is committed to a view of religion as a ‘view of life’ in the same way that other value-based discourses are a view of life. In this way, atheism can also be a view of life. Views of life are composed of values that enable us to orient ourselves towards a proper application of our knowledge about reality (provided through the sciences). The division of labour, then, is almost brutally clear; science provides us with knowledge about the world and religion clarifies our attitude towards this knowledge. Initially we might remark that it is interesting, given Herrmann’s adoption of the conceptually bounded character of knowledge, that he chooses to make one vocabulary (science) knowledge-bearing and another (religion) not. However, for the moment, it is enough to note that in defining

religion in this sense we free it from the constraining demands required of testable knowledge-claims and enable it to flourish as a form that facilitates human self-development. The implications for the science and religion debate are now revealed as being based upon, not just the different intents or uses of the vocabularies (this would be to move into line with the Creative Tension Model which will be developed in the next chapter), but also on logical and epistemological matters.

The different cognitive status of science and religion also presupposes different models for truth. Whereas science can be said to act from within a correspondence theory of truth, religion, as a view of life, equates truth with ‘...being true to life’.²⁵³ This is a question about the sort of criteria we bring to bear in order to decide if truth-claims are actually ‘true’. The danger implicit in giving vocabularies different sorts of epistemological or truth status is that we accept some form of representationalism. As we have seen, a pragmatic model of truth does not assign different statuses to different vocabularies, it democratises the notion of truth so that the distinction between vocabularies is displaced from an epistemological footing to a sociological one. Under Herrmann’s model, religion will always be the underachieving sibling of the great knowledge-gatherer, science. The only point of contact between the two vocabularies and therefore the only point at which they can fruitfully interact is when scientific theories have a direct impact on religious views of life. This may not seem to be a problem. The alternative, which I shall now develop, argues that the interaction between science and religion should be based upon an initially established equality that does not prejudice possible future interaction. In this respect both

²⁵³ Ibid., p. 150. Herrmann's conception of correspondence truth is informed by his pragmatic version of internal realism so the correspondence is not between sentences and reality but between ‘...statements about such observations that we expect from the proposed hypotheses and statements about observations that actually occur.’ Ibid., p. 150.

science and religion are equally valid attempts to cope with aspects of human experience. At certain points the different uses given to these vocabularies can become enmeshed. When this happens we enter into a conversation to seek a resolution which will increase the effectiveness of the respective vocabularies. If we enter into this situation, as Herrmann argues, knowing that science makes knowledge-claims about reality (albeit pragmatic, internally realist claims) and religion expresses non-cognitive feelings about the contingencies of life then the range of outcomes that we can expect is seriously limited.

Herrmann's distinction between truth and rationality here seems particularly important because it allows him to retain Rorty's '...pathos of distance' between reality as conceived by humans and its non-human analogue.²⁵⁴ The acknowledgement that we cannot get beyond our epistemic abilities should preclude Herrmann from making a cognitive distinction between science and religion. This is what ultimately limits his model. He warns us against the dangers of trying to push human epistemological powers too far whilst simultaneously arguing for the cognitive, reality-providing vocabulary of science compared with the far more humble expressionism of religion.²⁵⁵ Admittedly, Herrmann's pragmatic internal realism makes a less clear-cut case of the damaging realist thesis in action but the broad tones and themes of realism colour his finished model. There is a sense in which religion becomes a supporting character to the lead role that is performed by science rather than being a co-protagonist in the play of human vocabularies. So whilst we welcome the idea of epistemic limits (it is unfortunate that Herrmann does not extend this idea

²⁵⁴ Rorty, Richard 'Response to Michael Williams' in Brandom, Robert, B. (2000) Rorty and His Critics, p. 217. Oxford: Blackwell.

²⁵⁵ Cupitt has long been exploring the 'expressionistic' character of religious belief. See, for example, Cupitt, Don (1998) The Revelation of Being London: SCM Press.

to its logical conclusion and abandon all talk of epistemology) we have serious misgivings about the ends to which this insight are put. Now that we have shown that these tentative proposals for a model beyond critical realism inevitably fall back upon critical realist and representationalist premises, we can now start to progress towards the alternative offered by the Creative Tension Model. The precursor to this model is the pragmatic philosophy of Richard Rorty. It is to him that we now turn.

Chapter Five

Richard Rorty: The Route to the Creative Tension Model

In the previous chapter we looked at some of the possible alternative methodological approaches to the science and religion debate. We found that, despite attempts to formulate a new way of conceiving the relationship between the discourses, the damaging effects of critical realism were still in evidence. At least in Herrmann's model there was an attempt to engage with the post-modern and to incorporate some elements of pragmatism. In this chapter we will look at the influential work of the neo-pragmatist, Richard Rorty. Our central thesis and our proposal for a new model for the inter-disciplinary dialogue is inspired by Rorty's work. To understand Rorty and the background to his work we must begin by examining the key role that the philosopher of science Thomas Kuhn plays in Rorty's work. We will then look at Rorty's position in detail.

The Influence of Thomas Kuhn

Thomas Kuhn came to prominence in the 1960's amidst the turmoil surrounding the aftermath of logical positivism. He was originally a theoretical physicist but later turned to the history and philosophy of science where he established his considerable reputation. His first full-length publication in this field was The Copernican Revolution (1957) but it was the later The Structure of Scientific Revolutions (1962) that was to become his classic text.²⁵⁶ His work is particularly significant in the

²⁵⁶ Kuhn, Thomas, S. (1957) The Copernican Revolution: Planetary Astronomy in the Development of Western Thought Cambridge, MA: Harvard University Press. Kuhn Thomas, S. (1970, Second Edition) The Structure of Scientific Revolutions Chicago, IL: University of Chicago Press.

context of this thesis because it constitutes one of the gravest attacks on scientific realism as well as suggesting a model of science that is far more pragmatic in character. The essence of Kuhn's position can be summarized in three interrelated points:

- (1) The importance of history: scientific change is sociological
- (2) The concept of 'paradigms': models for resolving research problems
- (3) 'Incommensurability': science proceeds by revolutions. Paradigm shifts or 'revolutions' in science indicate that scientific 'progress' is not teleological but 'evolutionary'

We can perhaps crystallize the significance of Kuhn's model by considering its implications for the issue of scientific authority. Logical positivism cast science as the only legitimate cognitive medium; Kuhn's model (and this is where the sociological element features) pitches the scientific community against other media and language communities in attempting to solve problems.²⁵⁷ However, to return to the clauses of the summary, Kuhn's new historiography of science was to replace the old idea of scientific development, as a cumulative exercise, with a model that acknowledges the particular research concerns of different scientific eras. Kuhn felt that there should be a closer relationship between the philosophy and the history of science because it is by studying the history of science that we see the transition between theories being by no means a smooth, progressive journey. There are many cases of aberration in the history of scientific development. Horwich illustrates the point:

²⁵⁷ We shall see later how these ideas resonate with Rorty's position.

It is striking and significant....that astrology, our typical pseudoscience, was regarded by the most sophisticated thinkers of the mid fifteenth century as the very best of the sciences. An adequate philosophy of science must accommodate such historical phenomena.²⁵⁸

Related to this theme is the concept of 'normal science' which describes the state of consensus in the scientific community when there is a general agreement on a particular solution to an ongoing research problem. The vehicle for normal science is Kuhn's emblematic concept of the 'paradigm'. Paradigms are '...universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners.'²⁵⁹ The definition of paradigm is sufficiently loose to allow for a range of different factors but the thing that they all hold in common is their capacity to promote some sort of scientific achievement.²⁶⁰ 'Normal science' is flexible enough to accommodate anomalies providing that they facilitate the research concerns of the scientific community and that they do not threaten the guiding paradigm.²⁶¹ However, when these anomalies become significant and the problems to be resolved force a redefinition of the prevailing paradigm,

²⁵⁸ Horwich, Paul (Editor) (1993) World Changes: Thomas Kuhn and the Nature of Science, p. 3. London: MIT Press.

²⁵⁹ Kuhn, Thomas S. (1970, second edition) The Structure of Scientific Revolutions, p.viii. Chicago: University of Chicago Press.

²⁶⁰ There has been considerable debate about what Kuhn really meant by the notion of paradigm. Kuhn himself in a postscript to The Structure of Scientific Revolutions addressed the apparent ambiguity and there have been numerous other interpretations – See, Kuhn, Thomas S. (1970, second edition) The Structure of Scientific Revolutions, pp.174-191. Chicago: University of Chicago Press. See for example Eckberg, Douglas Lee and Hill, Lester 'The Paradigm Concept and Sociology: A Critical Review' in Gutting, Gary (Editor) (1980) Paradigms and Revolutions: Appraisals and Applications of Thomas Kuhn's Philosophy of Science, pp. 117-136. Notre Dame, Indiana: University of Notre Dame Press.

²⁶¹ This instrumental link between the research problem that has been identified and the model of science that provides the best resolution (and participates in the identification of the problem) closely resembles Rorty's idea of the causal relationship between our vocabularies and our environment.

science is said to enter an 'extraordinary' phase. A new paradigm is sought to make sense of these anomalies and if it can be agreed by the scientific community then the result is a new phase of 'normal science'. This paradigm change is truly 'revolutionary' because it is a non-cumulative process; the old paradigm is replaced by an incompatible new paradigm. It is not just that the methods for addressing particular problems change but that the problems themselves change along with the general direction of scientific research.

Kuhn's revolutionary model of science is clearly at odds with the realist model of science that emphasises the idea of a progression towards truth. Instead of picturing the scientific world as a fixed image that can be more and more accurately captured by progressive theories it becomes something more expressionistic, something that can be transformed according to the shifting concerns of the scientific community. That these ever changing models or paradigms are incompatible with each other is reflected in Kuhn's troublesome notion of 'incommensurability'.²⁶² The term is generally applied as a description of the relationship between successive eras of

²⁶² Troublesome because both Kuhn and those studying Kuhn have vacillated about the definitive meaning of incommensurability. John Earman provides a good example of this sort of difficulty: '...issues about incommensurability present amorphous and shifting targets. In *Structure*, for example, incommensurability was a label for the entire constellation of factors that lead proponents of different paradigms to talk past one another. In recent years Kuhn has come around to a more Carnapian or linguistic formulation in which incommensurability is equated with untranslatability.' Earman, John 'Carnap, Kuhn and the Philosophy of Scientific Methodology' in Horwich, Paul (Editor) (1993) *World Changes: Thomas Kuhn and the Nature of Science*, p. 17. London: MIT Press. Kuhn himself locates the problem in our usage of 'kind-terms' and our expectations about how these terms are to be used: 'Kind-terms supply the categories prerequisite to description of and generalization about the world. If two communities differ in their conceptual vocabularies, their members will describe the world differently and make different generalizations about it. Sometimes such differences can be resolved by importing the concepts of one into the conceptual vocabulary of the other. But if the terms to be imported are kind-terms that overlap kind-terms already in place, no importation is possible, at least no importation which allows both terms to retain their meaning, their projectibility, their status as kind-terms. Some of the kinds that populate the worlds of the two communities are then irreconcilably different, and the difference is no longer between descriptions but between the populations described. Is it, in these circumstances, inappropriate to say that the members of these two communities live in different worlds?' Kuhn, Thomas 'Afterwords' in Horwich, Paul (Editor) (1993) *World Changes: Thomas Kuhn and the Nature of Science*, p. 319. London: MIT Press

'normal science'. In this respect, successive paradigms are incommensurable because theoretical terms gain their meaning from their place in a specific framework. If the *same* theoretical term is employed in a new framework it takes on a different meaning that does not translate across the paradigmatic divide. So scientific revolutions involve not just methodological changes but also conceptual changes that upset the idea of a teleological scientific process. Scientific development is more akin to evolutionary change because the success of paradigms is dependent not upon their 'truth' or their ability to refer to reality but on the more pragmatic consideration of their relative success in solving problems. Before we look at the influence of Kuhn on Rorty we will briefly introduce some of the criticisms of Kuhn's approach.

Opposition to Kuhn

With his doctrines about scientific revolutions and the incommensurability of scientific theories, no one has done more to challenge the place of rationality in science than T. S. Kuhn.²⁶³

As Trigg illustrates, Kuhn's model arouses strong feelings amongst realist philosophers of science. We have already noted Polkinghorne's antipathy towards Kuhn. Here, the main problem was that the revolutionary model of scientific progress did not seem to do justice to the experience of practising scientists and their sense of a steady process of discovery. Trigg's concerns are with the implicit danger of relativism that lurks in Kuhn and the related 'sociological turn' that threatens realist science. The so-called 'strong programme' in the sociology of science in which

²⁶³ Trigg, Roger (1993) Rationality and Science: Can Science Explain Everything?, p. 235. Oxford: Blackwell.

scientific epistemology is deprived of its privileged status and forced to dwell amongst other vocabulary communities is seen as the logical outcome of this and the current bogeyman of realist philosophers of science.²⁶⁴ The related issue of the very rationality of science was something that also concerned readers of Kuhn. Where Kuhn was concerned that his account of science should be seen as directed against the epistemic quality of scientific theories many saw it, instead, as a direct attack on the rationality of theory choice. Central to this is the idea of incommensurability that seems to discount any sort of rational discussion between the instigators of rival theses.²⁶⁵

The strongest criticism of Kuhn from realist philosophers is that in closing the gap between theory and observation, he closes off the possibility of science making Truth the subject of its enquiry. If all observations are indeed theory-laden then we cannot think about the phenomena of scientific theories as though they enjoyed an independent, objective existence beyond their parent theory. Kuhn challenges the idea that science is, whether in intent or in actuality, 'realistic' and dispatches the view that science aims '... to answer our questions about the world *correctly* and to describe the world "as it actually is"²⁶⁶ It is for this attack on the realist foundations of science that Kuhn is most renowned and the debate is ongoing. We will now look

²⁶⁴ The standard responses to relativism and to proponents of the strong-programme in the sociology of science are the same: the observation that everything is socially determined and not factual or objectively true is self-defeating. So, 'When we are told by some sociologists that scientists do not discover what is real, but produce it, this is offered as a claim which gains its force because it purports to apply to something independent. Scientific activity is assumed to be a fit object of sociological study, and hence implicitly to possess its own reality independent of the study. Yet this means that sociology has to presuppose the kind of detachment from an objective reality, which it is simultaneously saying is impossible for the physical sciences.' Trigg, Roger (1993) Rationality and Science: Can Science Explain Everything?, p. 156. Oxford: Blackwell.

²⁶⁵ For a discussion of this see McMullin, Ernan 'Rationality and Paradigm Change in Science' in Horwich, Paul (Editor) (1993) World Changes: Thomas Kuhn and the Nature of Science, pp. 55-78. London: MIT Press

²⁶⁶ Rescher, Nicholas (1987) Scientific Realism: A Critical Reappraisal, p. 39. Dordrecht, Holland: D. Reidel Publishing Company.

at the importance of Kuhn in the pragmatic philosophy of Richard Rorty. This is best achieved through an examination of his conceptual distinction between solidarity and objectivity.

Richard Rorty: Solidarity and Objectivity

In this section we will look at the influence of Kuhn on the thinking of Richard Rorty. We then identify how Rorty's brand of pragmatism can be used to facilitate an improved relationship between the scientific and religious discourses.

Richard Rorty (born 1931) is probably the best known contemporary supporter of pragmatism. His philosophical development began at the University of Chicago and Yale University and by the 1960's he was publishing articles that dealt with a wide range of philosophical themes. His analytic background led him to accept the 'linguistic turn' and his admiration for Kuhn led him to reject the idea that there is such a thing as 'scientific method.'²⁶⁷ In epistemology he is anti-foundationalist and ultimately, as we shall see, anti-epistemology, favouring hermeneutics over epistemological strategies. His approach to language is anti-representationalist; he discounts the idea that we can approach better and better descriptions of reality. Instead, vocabularies are equally 'at play' in the world, competing with each other in their attempts to enable us to cope with our experiences. In many ways, Rorty sees the task of philosophy as therapeutic, as a way of working through some of the confused thinking that has dominated the history of ideas. This is an acknowledgement of his debt to Wittgenstein. His denial of the idea of a

²⁶⁷ Craig, Edward (Editor) Routledge Encyclopedia of Philosophy, p. 352. London: Routledge.

representational language is associated with his rejection of the idea of Objective Reality, or a pre-existing realm, which our language can more or less effectively mirror.²⁶⁸ This has led to charges of relativism being levelled at Rorty. However, his reformulation of objectivity in terms of 'intersubjectivity' and intra-community agreement ('solidarity') is an attempt to transform this pejorative term into a virtue. Crucial to this move is his distinction between 'Objectivity' and 'Solidarity' to which we now turn.

Rorty makes a distinction between two ways by which people attempt to make sense of their lives. One of those ways is 'Objectivity'. In taking this route, a person pictures himself or herself as standing in relation to a reality that transcends humanity. An alternative, and Rorty's preferred option, is an approach which defines a person in terms of their relationship to a community: 'Insofar as a person is seeking solidarity, she does not ask about the relation between the practices of the chosen community and something outside that community.'²⁶⁹

In his paper, 'Science as Solidarity'²⁷⁰, Rorty develops the concept of solidarity in relation to science. He looks at the ways in which concepts like 'objectivity', 'rationality', 'truth' and 'science' are often bundled together.²⁷¹ Other disciplines are encouraged to follow science's lead and make themselves similarly 'rational' and 'scientific'. For Rorty, the scientist is the (post)modern replacement for the priest,

²⁶⁸ Rorty's anti-essentialism helps to explain how he can believe in the existence of an 'external world of objects' without subscribing to some form of metaphysical representationalism. See, for example, 'A World Without Substances or Essences' in Rorty, R. (1999) *Philosophy and Social Hope*, pp. 47-71. London: Penguin.

²⁶⁹ Rorty, Richard (1994) *Objectivity, Relativism and Truth: Philosophical Papers, Volume 1*, p. 21. New York: CUP.

²⁷⁰ *Ibid.*, pp. 35-45.

²⁷¹ *Ibid.*, p. 35.

putting us in touch with realities beyond ourselves. Rorty distinguishes between two senses of rationality. To be rational is to have some method or criteria for 'success' laid down in advance. The distinction between scientists and artists is that scientists know before they begin their practice what would count against their hypotheses and thus what would count as failure or success. The artist, though, traditionally relies on other factors that only become apparent when their work is done. This conception of what is rational, which can be equated with the desire for 'objectivity' as Rorty defines it, has become the dominant definition and qualification for cognitive status.²⁷² We can see the influence of this worldview in the humanities as they strive to make themselves more scientific or at least to mimic the character of a scientific methodology.

This is not the only model of rationality available, however. Rorty identifies another form of rationality which is more concerned with being 'sane' or 'reasonable' rather than being 'methodical'.²⁷³ To be rational in this sense is to behave in a moral way, which acknowledges the needs and desires of the wider community and does not bow to the power of minority pressure groups. Rational here means a rejection of dogma. Under this model of rationality, as Rorty rightly points out, there need be no division between science and art or no hierarchy to the exercise of reason.

²⁷² Interestingly, Camille Paglia, drawing on psychoanalytic theories, identifies the desire for objectivity with maleness. One of the guiding metaphors for women, Paglia says, is that they are mysterious and 'hidden'. The origin of this particular trope lies in the ambiguity of the female genitalia as opposed to that of the male. The inability of girls to perceive (easily) their own genitals forces them to be more acceptant of ambiguity and subjectivity. '....men's delusional certitude that objectivity is possible is based on the visibility of their genitals.' Paglia, Camille (1992) Sexual Personae: Art and Decadence From Nefertiti to Emily Dickinson, p. 32. London: Penguin.

²⁷³ Rorty, Richard (1994) Objectivity, Relativism and Truth: Philosophical Papers, Volume 1, p. 37. New York: CUP.

Rorty argues that this 'weaker' model of rationality is preferable to the former, 'strong' model which excludes non-scientific spheres of human activity from having any reasonable beliefs. Rorty sees Kuhn, with his revolutionary model of scientific progress, as an ally in the pragmatist cause. The Kuhnian model of science questions its rationality, in the strong sense, and instead emphasises its dependency on theory rather than on an appeal to an external, objective reality. Rorty's pragmatism, or 'left-wing Kuhnianism' as he characterizes it, blurs (or removes) the distinction between science and non-science and replaces 'objectivity' with 'unforced agreement'.²⁷⁴

The pragmatist approach attempts to find ways of defining ourselves without appealing to an extra-human resource. The quest for objectivity, for realism is always going to be a frustrated quest and it is far better to acknowledge our limits. The recognition of such limits and the transposition of solidarity for objectivity is an enabling move that allows us to explore the full scope of community possibilities. Science is valuable but it should not be supposed that the methods of science could be extended to cover all spheres of human activity. This is not based upon epistemological or metaphysical arguments but on the common sense perception that 'prediction and control may not be what we want from our sociologists and our literary critics.'²⁷⁵

²⁷⁴ Ibid., p. 38. By 'unforced agreement' Rorty means that beliefs arise within communities and are accepted because of their persuasive power rather than by being forced. Some argue that rationality thus construed is 'relativistic' and arbitrary but Rorty argues that without the God's-eye view of things we must rely on making community based judgments about the coherence of concepts. This is not to deny the possibility of trans-community agreement. Rorty argues that we can either see how other cultures models sit amongst our own or we can always 'enlarge the scope of "us" by regarding other people, or cultures, as members of the same community of inquiry as ourselves – by treating them as part of the group among whom unforced agreement is to be sought.' Ibid., p. 38.

²⁷⁵ Ibid., p. 40.

The pragmatist denial of the correspondence theory of truth often leads to accusations of anarchic relativism and an 'anything goes' philosophy.²⁷⁶ Rorty is sensitive to these criticisms and attempts to explain how they are misguided and misrepresentative. The pragmatist is often characterised as one walking a perilous tightrope between ethnocentricity and a handicapping nihilism. The absence of any universal, objective facts about human experience or of philosophical systems that can uncover the 'world's narrative' transfixes us in the subdued lighting of uncertainty. An obvious problem is that posed by the lack of any objective criteria for assessing inter-cultural moral problems. The standard criticism is that without any extra-cultural reference point we are powerless to raise objections to the moral standards of, say, oppressive regimes. If all moral perspectives are equally viable then we are unable to criticise Nazism.

As Rorty points out, however, this is only a problem if we are still working from within the 'strong' version of rationality which ties our judgements to a non-human reality. The desire for objectivity should instead be supplanted by a description in terms of solidarity, with truths decided according to agreement within communities. The 'soft' version of rationality is the check against the sort of unbalanced, anarchic relativism that is so often the caricature of pragmatist thinking. The will to create open societies, that endure, through 'unforced agreement' is not driven by an attempt to give them grounding in some eternal truth. This openness supplants the need for any such atemporal sounding board. Just because we cannot appeal to some abstract notion of rationality does not preclude us from being able to make judgements about

²⁷⁶ Feyerabend is an obvious, extreme example of an anti-method and 'anarchic' approach to science. See, for example, Feyerabend, P. (1993) Farewell to Reason London: Verso.

the preferential status of free and open societies over totalitarian ones. The reasonableness of such a judgement is uncontroversial.

Rorty's solidarity admittedly has political overtones to it. The foundation, if there is one, to his proposal is the end in itself of an open, democratic community. This utopian vision is not presented as the means to realising the goal of a strong rational programme. There is no final point at which to aim. The concepts of realism or of verisimilitude are redundant. The end described by a society defining itself through solidarity is not a static point but a flux of ideas, limited only by their ability to benefit the community. The old taxonomies can now be broken down. Science is no longer the new quasi-priesthood or the method that enables us to tell the world's story. It takes its place among the other spheres of human discourse; all contributing to their own community and the wider society. Rorty's admittedly political philosophy borrows heavily from socialist ideas. His concerns about the hegemony of scientific knowledge are justified and his antithesis is welcomed. The democratization of knowledge or perhaps more accurately, the supplanting of the importance of cognitive questions by *the needs of the community* is an inspirational construct.²⁷⁷

There is no fixed reality 'out there' in Rorty's version of pragmatism. This is why his vision of utopia '...is one in which poets rather than scientists or priests or religious prophets are thought of as at the cutting edge of civilization, and are the heroes and heroines of the culture.'²⁷⁸ Science, like all other discourses is endlessly free and not

²⁷⁷ Here we can now see why the desire to integrate religion to science stems from the belief that science monopolizes the resource of truth. Rather than looking for the sort of integration proposed (to an extent) by Polkinghorne *et al* we should instead look into the possibilities of creative interaction between the subjects.

²⁷⁸ Rorty in Saatkamp, H. J. (Editor) (1995) Rorty and Pragmatism: The Philosopher Responds to His Critics, p. 32. Nashville: Vanderbilt University Press.

bound by any strictures that force it to correspond to some metaphysical reality. What matters for Rorty is the endless capacity of humanity to create meanings and to revel in those meanings for what they are, rather than for how much closer they get us to an elusive, eternal reality.

One obvious implication of Rorty's approach is that concepts such as verisimilitude become redundant. The critical realism of Polkinghorne is a misguided project, founded upon an obsolete model of science which dates back to the Enlightenment. Rorty's model of scientific exploration has much in common with Kuhn's revolutionary model of science. As we have seen, Rorty actually renames his version of pragmatism 'left-wing Kuhnianism'.²⁷⁹ There are differences, though, between Rorty's position and Kuhn's. In some ways, Rorty is more radical than Kuhn because he wants to abolish the distinction between subjectivity and objectivity and between fact and value. Rorty argues that Kuhn wants to keep this aspect of the traditional model of science and retain a distinction between '... "questions of language" and "questions of fact"'.²⁸⁰ Kuhn, then, wants to retain the inductive aspect of scientific truth which maintains the fallacious perception (according to Rorty) that our beliefs stand in need of some external arbiter of truth. For Rorty, Kuhn places too much value in the, as he perceives it, defunct model of science as the inheritor of a privileged epistemology. Rorty, aware of the decline in support amongst academic philosophers for foundationalist epistemologies, is keen to replace epistemology and all talk of cognitive systems, with hermeneutics. We will return to this point in a moment.

²⁷⁹ Rorty, Richard (1994) Objectivity, Relativism and Truth: Philosophical Papers, Volume 1, p. 38. New York: CUP.

²⁸⁰ *Ibid.*, p. 40. See also, Rorty, Richard (1980) Philosophy and the Mirror of Nature, p. 339-340. Oxford: Blackwell.

Another area in which Rorty's position is at variance with Kuhn is in his ethnocentrism, which appears to conflict with Kuhn's notion of incommensurability. Brown makes the point that Kuhn's model of revolutionary science imposes a complete communication barrier between the old and the new paradigms.²⁸¹ The lack of any neutral language that can act as a bridge spanning the two paradigms also seems to make it difficult for any rational judgement to be made about the relative merits of competing theories. This would seem to open the floodgates for a wholesale relativism or an 'anything goes' methodology or an a-methodology.

There are several points to address here. To begin with, Brown presents a rather skewed version of Rorty's 'ethnocentrism'. Rorty, after Putnam, is concerned with changing the way we define rationality. Rorty's rationality, as we have seen, is not the objective, scientific model that is concerned with the 'applying of criteria'.²⁸² Rorty's refusal to ground rationality in anything other than a community base (essence of solidarity) does not mean that he is committed to relativism or a pernicious ethnocentrism. Instead, he suggests we should adopt a holistic approach to enquiry which allows beliefs from other cultures to be woven in with beliefs from our culture. Ethnocentrism, here, does not mean that we should exclude beliefs from other cultures, only that they be tested to see how they fit against our own beliefs. The test is not an epistemological one about privileged sorts of knowledge; neither is it a question of competing truths but, as always with the pragmatic paradigm, it is an ethical or a practical test. The beliefs that work are the *beliefs that work*.

²⁸¹ Brown, James Robert (1994) Smoke and Mirrors: How Science Reflects Reality, p. 33. London: Routledge.

²⁸² Rorty, Richard (1994) Objectivity, Relativism and Truth: Philosophical Papers, Volume 1, p. 27. New York: CUP.

Epistemology proceeds under the assumption that there are certain common grounds on which foundations can be built. It presupposes that there is a neutral area where all discourses go to be translated. Hermeneutics, Rorty tells us, is the rejection of this and the willingness to '....pick up the jargon of the interlocutor rather than translating it into one's own.'²⁸³ Hermeneutics thus portrayed is akin to the process by which we come to know someone. What begins as something strange and unusual becomes, through a process of guessing and interchanges, more familiar; it is something like developing a new skill.²⁸⁴ Rorty here introduces the idea of the 'hermeneutical circle' which describes how we cannot understand the parts of a strange culture until we understand it as a whole and we cannot understand it as a whole until we understand something of its parts. If we take a foundationalist view of knowledge then certain components will be seen as privileged or essential factors in the acquisition of knowledge. Knowledge, portrayed as something which gives an accurate representation of reality, will always rely upon isolating certain factors from a context (or prior to a context). One such would be scientific rationality which would facilitate an appropriate representation.

In Rorty's holistic approach, hermeneutics takes its cue from the idea of culture as a conversation, rather than as something built on rationalist principles. Interpretation, in this sense, involves maintaining a tension between trying to understand particular aspects of, for example, a social order, whilst making conjectures about it as a whole. The interplay between these two axes enables understanding to flourish. We are now in a better position to understand how Rorty deals with Kuhn's 'irrationalist'

²⁸³ Rorty, Richard (1980) *Philosophy and the Mirror of Nature*, p. 318. Oxford: Blackwell.

²⁸⁴ *Ibid.*, p. 319.

methodology, specifically with the notion of incommensurability which has been seized upon by both realists and anti-realists as the key feature of Kuhn's work.

Kuhn's statement that competing paradigms '....practice their trades in different worlds'²⁸⁵ has been the subject of much debate. The concept of incommensurability arises out of an attachment to epistemology, more precisely a rationalist or positivistic epistemology. The idea that paradigms or trans-cultural languages can be 'commensurable' assumes that there are certain a-cultural rational standards that can inform an epistemology.²⁸⁶ There are some links here with our earlier discussion of Rorty's solidarity set against the rationalist conception of objectivity. The desire for commensurability is allied to the implicit belief that there exists an objective benchmark, discoverable through an appropriate epistemology.

Those things which are labeled 'incommensurable' are the non-cognitive, subjective conjectures that fall outside the confines of an authentic epistemology. Rorty suggests that a pragmatic approach to knowledge will distinguish commensurable and incommensurable discourses as the difference between '.... "normal" and "abnormal" discourse – a distinction which generalizes Kuhn's distinction between "normal" and "revolutionary" science.'²⁸⁷ Normal discourse is epistemological because it takes place against the backdrop of a pre-existing set of agreed rules for what is to count as knowledge. Abnormal discourse, or revolutionary science, is rogue discourse which

²⁸⁵ Kuhn, Thomas, S. (1970, second edition) The Structure of Scientific Revolutions, p. 150. Chicago: University of Chicago Press.

²⁸⁶ Rorty here has shifted the meaning of commensurability away from its more common interpretation. The Kuhnian meaning of commensurability has usually been taken to say that terms are recognised as holding the same meaning. So, in the practice of 'normal science' there is an agreement about the meaning of terms used in theories. In 'abnormal' or revolutionary science, there is a discontinuity in the meanings of terms across the paradigmatic barriers so the terms used in the new paradigm do not have the same function as those in the paradigm that they have replaced.

²⁸⁷ Rorty, Richard (1980) Philosophy and the Mirror of Nature, p. 320. Oxford: Blackwell.

arrives on the scene with an alternative, as yet unclear, definition of what is to count as knowledge or it is a positive rejection of the discourse it seeks to replace. It is with the unfamiliar, abnormal discourse that we must turn to hermeneutics if we are to begin to interpret what is, as yet, too obscure to be granted epistemic status.

A transition from the practice of hermeneutics to the domain of epistemology does not describe an ascent from dubious subjective knowledge to the hard facts of objective knowledge; it merely denotes a movement towards a higher degree of 'familiarity'. The commensurability afforded by terms used in normal discourse does not come about, then, because we have uncovered the truth about the nature of knowledge.²⁸⁸ If we relate this insight back to Rorty's concept of solidarity, which we introduced at the beginning of this section, we can see why the idea of incommensurability must expire along with objectivity and epistemology itself. For to engage in epistemology, we must be sure that there are certain foundations upon which knowledge can be grounded and certain criteria to which one can appeal, to make judgements about the cognitive status, or otherwise, of beliefs. Rationality, Rorty tells us, does not inhere in the application of an already worked out framework of criteria. Rationality, defined in Rorty's ethical and political sense, is not dependent upon foundational criteria, since these are the province of epistemology. Rorty's definition of rationality does not require epistemology. The concept of commensurability is equally invalid, tied as it is to the notion that there can be common grounds or criteria for rationality.

²⁸⁸ 'We can get it (commensuration) not because we have discovered something about "the nature of human knowledge" but simply because when a practice has continued long enough the conventions which make it possible – and which permit a consensus on how to divide it into parts – are relatively easy to isolate.' *Ibid.*, p. 321.

It is interesting that Brown²⁸⁹ regards Rorty as conservative when set against the more radical methodology of Kuhn. Rorty himself believes that Kuhn does not go far enough. Instead of rejecting epistemology entirely Kuhn opts for a more cautious approach seeking a replacement for the present epistemological model.²⁹⁰

This brief consideration of the pragmatist approach to science, as exemplified by Richard Rorty clearly presents us with questions to be asked about critical realism. As we have seen, critical realists, such as Polkinghorne, suggest that most of their fellow scientists believe that science is grounded in epistemology and that it has cognitive status. Science uncovers reality. Each of the versions of realist methodologies we have considered have not really attempted to justify their choice of realism over other philosophical models. This may be, perhaps, because there is a feeling that there is no real requirement for further explication because critical realism is accepted by the majority of scientists. It may also be because, as we noted in our chapter on John Polkinghorne, that scientist theologians do not see it as part of their remit to investigate philosophical arguments. This might be more acceptable if they

²⁸⁹ Brown, James Robert (1994) Smoke and Mirrors: How Science Reflects Reality, p. 33. London: Routledge.

²⁹⁰ '....some of our true beliefs are related to the world in a way in which others are not. So I am inclined to think that Kuhn himself was unconsciously attached to such a distinction....' Rorty, Richard (1994) Objectivity, Relativism and Truth: Philosophical Papers, Volume 1, p. 51. New York: CUP. Rorty thinks that Kuhn, if only in a subliminal way, believed that science was bridging the gap between our beliefs about the world and the way that the world really is. The implication is that he held the belief that there is some theory-independent reality which we can mirror in our ever-more accurate descriptions. In his 1969 postscript to The Structure of Scientific Revolutions, though, he clearly makes a contrary case – 'A scientific theory is usually felt to be better than its predecessors not only in the sense that it is a better instrument for discovering and solving puzzles but also because it is somehow a better representation of what nature is really like. One often hears that successive theories grow ever closer to, or approximate more and more closely to, the truth. Apparently generalizations like that refer not to the puzzle-solutions and the concrete predictions derived from a theory but rather to its ontology, to the match, that is, between the entities with which the theory populates nature and what is "really there". Perhaps there is some other way of salvaging the notion of 'truth' for application to whole theories, but this one will not do. There is, I think, no theory-independent way to reconstruct phrases like 'really there'; the notion of a match between the ontology of a theory and its "real" counterpart in nature now seems to me illusive in principle.' Kuhn, Thomas, S. (1970) The Structure of Scientific Revolutions (second edition), p. 206. Chicago: University of Chicago Press.

were to at least make some perfunctory investigations of alternative ways of locating the scientific endeavour. All too often, alternative philosophical approaches to science are either ignored, represented in a facile manner or rejected out of hand.

Writers such as Polkinghorne generally portray philosophers as outsiders, not privy to the real mechanics of scientific research. His portrayal and dismissal of Rorty and pragmatism takes the form of a pair of sentences – ‘Scientific theories do not tell it like it is, but they are practically efficacious manners of speaking. Yet, whence arises this miraculous accomplishment if our theories do not reflect, at the least, some true aspects of the way things are?’²⁹¹

The notion that words or theories correspond to a reality that has a mind-independent existence and that ‘truth’ is ‘correspondence with reality’ is, Rorty says, in his influential paper ‘Texts and Lumps’, ‘...an uncashable and outworn metaphor.’²⁹² Science, though, claims to deal with hard facts; it is concerned with ‘hardness’ (as Rorty puts it). The definition of truth is shifted to accommodate the scientific process by which facts are discovered about the world – truth becomes synonymous with ‘hardness’. If we refer back to our earlier discussion of Rorty’s distinction between solidarity and objectivity we can perhaps better appreciate his concerns. The conflation of truth into fact and objectivity makes unnecessary demands on other discourses to conform to or replicate scientific discourse. Instead, Rorty argues that hardness is a contrivance of a particular language game and only exists because of a previous agreement amongst those playing that particular game. So, ‘...A hypothesis

²⁹¹ Polkinghorne, J C (1996) Beyond Science: The Wider Human Context, p. 13. Cambridge: CUP.

²⁹² Rorty, Richard (1994) Objectivity, Relativism and Truth: Philosophical Papers, Volume 1, p. 79. New York: CUP.

is agreed to have been “verified by the real world” if a computer spits out a certain number.²⁹³

Realists would argue that this ignores the fact of causality, that there is something out there that is affecting the creation of language games and being incorporated into these language games. To use Rorty’s example: Galileo, when looking at Jupiter’s moons through his telescope, experienced the ‘hard’ impact of the light on his retina.²⁹⁴ A different astronomer may have seen it differently, or interpreted it differently from Galileo but the fact of the causal, physical event stands independently of the local interpretation. Rorty, whilst not denying the brute physicality of the causal aspect argues that we should reject the idealism that says we can separate out the cause from our description of it. The realist model, which asserts our passivity to causal factors and the ability of language to represent the hardness of these physical facts, should be rejected in favour of a pragmatist model that realises our active role as a co-causer (in terms of the descriptions that we create). As well as being subject to the causal factor we are already bound to the rules of a particular language game which determines the sort of explanations we will give. Rorty thinks we should replace the old metaphors that show a preoccupation with ‘hardness’ and facts and instead think of language as ‘...a way of grabbing hold of causal forces and making them do what we want, altering ourselves and our environment to suit our aspirations. The pragmatist thus exalts spontaneity at the cost of receptivity, as his realist opponent did the reverse.’²⁹⁵

²⁹³ Ibid., p. 80.

²⁹⁴ Ibid., p. 81.

²⁹⁵ Ibid., p. 81.

We can see with the benefit of this analysis just why the approach taken by Richard Dawkins is a serious misrepresentation of both science and religion as well as being an extremely beguiling but specious position.²⁹⁶ In Dawkins' case it is his uncritical realism and belief in the unerring and objective truth (or 'hardness) of a particular problem solving tool (evolutionary theory) that leads him to denounce religion as something that has no purchase on reality. There is almost a complete denial in Dawkins' approach of the role of interpretation or construction within science. Instead, scientists are seen as ciphers for pure truths about the world whilst religion is seen pejoratively as a human creation with no grasp upon the true nature of things. A model that puts science at the apex of truth is problematic enough but when it is portrayed (as it is by Dawkins) as a monolithic truth then there is never going to be space for religious descriptions or any other non-scientific vocabularies.²⁹⁷

However, Dawkins, Polkinghorne and other realists feel that the pragmatist position sells science short. It is technology that harnesses natural processes for instrumental aims but science is about '...the search for understanding'.²⁹⁸ Rorty, it appears, believes rather that we should conflate the ontological division between science and technology. In this respect he echoes the position of other so-called post-modern writers who have turned their attentions to science.

In the next section we will turn our attention to Rorty's influential taxonomy of representationalist and anti-representationalist approaches to language and see how

²⁹⁶ Dawkins has produced a series of beautifully erudite explorations of evolution. His seminal work in the field is: Dawkins, R. (1991) *The Blind Watchmaker* London: Penguin.

²⁹⁷ Dawkins 'Meme' theory was a crudely constructed attempt to reduce all discourses to a scientific, specifically evolutionary description. It fails because we now know that we cannot do everything we want with a scientific description. Its uses are limited. See Chapter Six.

²⁹⁸ Polkinghorne, J C (1996) *Beyond Science: The Wider Human Context*, p. 13. Cambridge: CUP.

his model of the way language works can enable us to carve out a new mould for the relationship between scientific and religious languages.

Anti-Representationalism Not Representationalism

At this stage it seems useful to introduce Rorty's helpful distinction between representationalism and anti-representationalism. He puts these two positions forward as alternatives to the more familiar opposition of realism and anti-realism. Until the early part of this century philosophers were concerned with the problem of how to relate mind to the world. The two main options here were idealism, or the belief that reality is mind-dependent, and realism, the view that reality exists independently of our consciousness. The supplanting of idealism by anti-realism, as the new challenge to realism, came with the nascent philosophy of language which has since come to dominate academic philosophy and other parts of culture, spreading its influence through all spheres of discourse. Anti-realism is now synonymous with the view that there are no extra-linguistic realities, that language cannot represent anything outside language. The realism/anti-realism problem only comes about, Rorty says, if we are still in thrall to a picture that language somehow represents or reflects what is *out there*. Once we reject the idea of representationalism, the realism/anti-realism opposition falls away.²⁹⁹

The realist response to this is to question how our language relates to the world. How are we apparently able to grasp and manipulate aspects of the world? Such questions assume a sort of anthropocentric linguistic idealism in which our words and languages

²⁹⁹ Rorty, Richard (1991) Objectivity, Relativism, and Truth: Philosophical Papers Volume 1, p. 2. Cambridge: CUP.

create the world or impose our reality on the world. This polarity between realism and an extreme anti-realism is the position taken by writers such as Polkinghorne (Polkinghorne does admit that he is not really a philosopher and this goes some way to explain his failure to really engage with these issues). The representationalist model sets up the realist and anti-realist division which still captivates the critical realist scientist-theologians. This is revealed by Polkinghorne's indignant reaction to the suggestion made, by some sociologists of science, that science is a social construction which, in turn, constructs reality:

It is difficult to exaggerate how implausible this sounds to a high energy physicist. Far from the physical world proving to be like clay in our theoretical hands, it displays a diamond-like hardness, resistant to our expectations and imposing upon our minds its idiosyncratic and unanticipated structure.³⁰⁰

And later, discussing the quark theory of matter,

When finally a coherent picture emerged, it had all the feel of discovery and none of the feeling of pleasing construction. 'So *that's* what nature's like – who'd have thought it beforehand!³⁰¹

Of course, where the creative-tension model departs from Rorty's position is in its acceptance of religious and theological discourse as valid conversations and useful human tools. Rorty, in attempting to sweep away all metaphysics and all discourses that attempt to find some external, objective grounding for themselves has thrown the

³⁰⁰ Polkinghorne, J. C. (1996) Beyond Science: The Wider Human Context, p.9. Cambridge: CUP

³⁰¹ Ibid., p. 9.

theological and religious babies out with the foundationalist bathwater. The current vogue for anti-foundationalism in post-modern thought reflects the wider phenomenon of the death of metaphysics. The idea that knowledge or truth can be grounded in anything that transcends language and community has fallen out of favour. We have already examined Rorty's opposition of objectivity and solidarity but we have not yet really investigated what this means for religion and for science and for the way these two discourses interact with each other.

Realists are clearly working with a representationalist picture of language and of scientific theories. They cannot understand how anyone can believe that language does anything other than mirror, with a qualified accuracy, what is 'out there' in 'nature'. There seems to be no other way of explaining how the physical world appears to have this 'diamond-like hardness' which is resistant to any attempts to bend it to our preconceptions. We will deal with the anti-representationalist critique of scientific truth shortly but for the moment we will dwell on more the general implications of rejecting representationalism.

The caricature of anti-realists is that the world is some sort of indeterminate mass into which we press our mould of language to construct it in any manner of our choosing (Perhaps this is to a certain extent a fairly accurate caricature and the opposition between realism and anti-realism is always going to generate these extreme 'pendulum swings' between different and improbable versions of our relationship to the world). Rorty's suggestion that we side step this philosophical problem and instead pursue an anti-representationalist approach enables us to put the worries of writers such as Polkinghorne in their proper context. It turns out that it is not the

world that we are constructing with language, but truth. Critical realists such as Polkinghorne would argue that an anti-representationalist approach leads to the sort of linguistic idealism that denies the existence of the world. Even though no one would seriously adopt this position it is often presented in this way to make the realist position seem the only sensible approach.

There is a distinction here to be made between the claims that the world is 'out there' and that the 'truth' is 'out there'. Anti-representationalists do not deny that the world exists or affirm that human mental states somehow 'create' the world. Rorty says:

The world is out there but descriptions of it are not. Only descriptions of the world can be true or false. The world on its own - unaided by the describing activities of human beings - cannot.³⁰²

As Rorty says, it is us not the world that speaks and even though, '....once we have programmed ourselves with a language'³⁰³ the world can cause us to hold beliefs, it cannot give us the language within which to frame them. The mistake of representationalism is to insert language between the world of truth and ourselves. The aim of projects that claim to uncover the true nature of the world, such as a critical realist science, is to more closely approximate the language of nature, to attempt to force a convergence between the language of science and the language of nature. Anti-representationalists want to say that thought no more constructs reality than reality determines or constructs thought. It seems particularly important to stress this because of our specific interest in rebuffing any realist (critical or otherwise)

³⁰² Rorty, Richard (1993) Contingency, Irony and Solidarity: Philosophical Papers, Volume 2, p. 5. New York: CUP.

³⁰³ *Ibid.*, p. 6.

strategies in science. The idea that there can be a convergence between what is really going on in the world and our theories about it arises from the more mundane observation that events in the non-linguistic world cause us to use certain linguistic items. So, for example, a football in the back of net might cause us to shout 'Goal!'³⁰⁴ This is an example of the world seemingly causing us to make a statement within a specific social practice, here the game of football. Realist scientists would want to go further than this, though, and argue that the world 'causes' us to adopt entire social practices because they reflect the true state of affairs that created and led up to this causal process.

We cannot avoid being a part of the environment that has influenced the development of our bodies and the sort of languages that we use. This commonsensical notion is something that is willingly accepted by Rorty and anti-representationalists. What they object to, however, is the idea that some practices correspond with the world or with features of the world in special or privileged ways which other social practices cannot emulate. This is obviously a claim that realist scientists would want to make, although scientist-theologians, such as Polkinghorne, would also want to include theology as a practice that somehow 'corresponds' with reality. For the moment we will attempt to clarify the difficulties associated with such a view and then investigate the implications of anti-representationalism for science.

The representationalist mistake, we have seen, is to think that the world is, independently of our language, divided up into 'facts' that correspond with certain

³⁰⁴ See, Rorty, Richard (1994) Objectivity, Relativism and Truth: Philosophical Papers, Volume 1, p. 5. New York: CUP.

sentences in our languages. We may be justified in holding beliefs because of the causal properties of aspects of the world but this does not mean that our beliefs are true because they correspond with some pre-existing truth 'out there'. Rorty thinks that such a conflation arises from concentrating too much on single sentences or, to return to the example above, on goals rather than on the wider game:

For we often let the world decide the competition between alternative sentences (e.g., between "Red wins" and "Black wins" or between "The butler did it" and "The doctor did it"). In such cases, it is easy to run together the fact that the world contains the causes of our being justified in holding a belief with the claim that some nonlinguistic state of the world is itself an example of truth, or that some such state "makes a belief true" by "corresponding" to it. But it is not so easy when we turn from individual sentences to vocabularies as wholes(.....)Attention(....)to the vocabularies in which sentences are formulated, rather than to individual sentences, makes us realize, for example, that the fact that Newton's vocabulary lets us predict the world more easily than Aristotle's does not mean that the world speaks Newtonian.³⁰⁵

The move away from looking for objective causes for truth does not mean that we should instead replace them with subjective ones. The choice between different language games is not really a choice at all in the sense that it arises from deep-seated feelings or it conforms with an intrinsic self. This would be to replace one external criterion for truth with an internal one which recreates exactly the same problems that we have just been discussing. Neither the world nor the 'self' provides us with

³⁰⁵ Rorty, Richard (1993) Contingency, Irony and Solidarity: Philosophical Papers, Volume 2, pp. 5-6. New York: CUP.

independent criteria for deciding between different language games. As we have seen, we should not see language and particular uses of language (language games) as mediating between something (the real world or the true self) because these concepts themselves are parasitic upon, or products of, language themselves. The absence of any independent criteria for discerning how accurately language represents or corresponds to reality means that we should drop this idea of reference completely. As we have seen before, the 'God's-eye' view is unobtainable. When realist scientists claim that the success of a representationalist language, or a theory, is down to its accuracy in corresponding to an already existing truth, they are unable to offer any independent test (a test which does not employ the representationalist language of the theory) to confirm this. Rorty argues that the use of such objectifying, referral language by scientists amounts to nothing more than 'incantations' or a sort of magical use of language intended to invoke a certain state of affairs:

So anti-representationalists think "we use 'atom' as we do, and atomic physics works, because atoms are as they are" is no more enlightening than "opium puts people to sleep because of its dormitive power."³⁰⁶

And again, on the idea that truth is determined by correspondence with reality:

(Such views) are empty metaphysical compliments - harmless as rhetorical pats on the back to the successful enquirer or agent, but troublesome if taken seriously and "clarified" philosophically.³⁰⁷

³⁰⁶ Rorty, Richard (1991) Objectivity, Relativism, and Truth: Philosophical Papers Volume 1, p. 6. Cambridge: CUP.

³⁰⁷ Rorty, Richard (1996) Consequences of Pragmatism (Essays: 1972 – 1980), p. xvii. Minneapolis: University of Minnesota Press.

Such talk does not really provide us with any new information. It is just a redescription of what we already know in different terms. Theories about atomic physics are correct because they enable us to do certain things. To retroactively assert that they are correct, because they represent the way things objectively are, is not a valid claim. The addition of the qualification, 'representing reality' then, is unnecessary for the pragmatist and also appears, *ex hypothesi* to be unobtainable. Once we start moving away from the idea that languages stand in relation to some extra-linguistic reality and, instead, picture them as tools which enable us to do different things, a whole host of problems will fall away. Rorty's conception of science as something that is an effective tool for prediction and control illustrates just this point. There is no justification for believing that a human practice that facilitates prediction and control should be any more representational of objective reality than any other human practice such as poetry or religion. Under this description, scientific practice is no more mind-independent or 'objective' than any other language game.

The realist or representationalist might want to interject here that antirealism contains within it the seeds of its own destruction since if nothing can be really True (truth with a capital 'T' here meaning objective or representational truth) and truth is a product of agreement within discourses then antirealism is equally 'unTrue'. The anti-representationalist would want to respond that there is no problem with this, since under their description no claims *can* be made about accessing objective truth or extra-linguistic truth. Under an anti-representationalist description the realism/anti-

realism opposition becomes a non-issue because the question of whether language refers to truths out in the world is no longer asked, it is rendered redundant.

We are now getting closer to a position where we can spell out the implications of such a non-representationalist approach, both for science and for religion. The Wittgensteinian model, that portrays vocabularies as tools, captures the experience of different languages enabling us to cope with different things. Reductionism arises from the view that the world is split up into different facts, that different vocabularies represent these facts and ultimately the vocabularies can be absorbed into a unified form that will tell the complete story of the world. Instead we should consider that perhaps there are not more accurate representations or even best explanations but rather, ways of thinking which help people to attain particular purposes. Once we cease to think of language as representing certain facts about the world and we abandon the related view that there will come a time when we will have a complete description of reality, then we will be more able to accept a plurality of different truths, each one fulfilling a particular human purpose.

As Rorty points out the metaphor of language as a tool is something of a disanalogy given that we usually know what sort of tool we will need or what sort of tool we must forge to perform a specific task.³⁰⁸ If we look at someone like an artist, they are often unsure of what they are doing until it has suggested itself. Before the tool that is required for the specific task can be created the artist must work until the tool presents itself as the thing necessary for the fulfilment of the process. There are resonances here with the idea of the circularity problem. Here the scientist sets out to measure a

³⁰⁸ See, Rorty, Richard (1993) Contingency, Irony and Solidarity: Philosophical Papers, Volume 2, p. 12. New York: CUP.

particular feature of the world and sets about designing suitable measuring apparatus. However, until something can be known about the character of the thing to be investigated there can apparently be no way of knowing what sort of apparatus will be sufficient or appropriate for the task. In this case before the tool can be 'suggested' the scientist must initially make a guess and use a tool which can then be modified to be more appropriate to the task. Perhaps there is not so much of a disanalogy as Rorty thinks. If we think of a metaphor as something that does not really have a place in a language game, as a familiar word used in an unfamiliar way; within a vocabulary metaphors can either survive or be abandoned, according to their effectiveness at enabling us to approach problems in a new, helpful way. Metaphors in this sense are not different sorts of facts but comprise (if they 'stick') what can become redescriptions of causes. Once they have become familiar and grounded in a vocabulary they are literalized - that is, they become newly established tools. As Rorty points out, Kuhn's model of revolutionary science provides just such an example of this redescription using new metaphors.³⁰⁹

We have already noted that Rorty views realist scientists as the natural successors to priests as the enablers through which we access objective reality. One of the reasons why science has attained this esteemed position is because of its unique ability to

³⁰⁹ Ibid., p. 16. Rorty's study of metaphors follows from Davidson who set out to radically rework the concept. He was concerned to show that metaphors do not have special, secret meanings or any meaning at all, apart from their literal meaning as words: 'It is no help in explaining how words work in metaphor to posit metaphorical or figurative meanings, or special kinds of poetic or metaphorical truth. These ideas do not explain metaphor, metaphor explains them. Once we understand a metaphor we can call what we grasp the 'metaphorical truth' and (up to a point) say what the metaphorical meaning is. But to simply lodge this meaning in the metaphor is like explaining why a pill puts you to sleep by saying it has a dormitive power. Literal meaning and literal truth conditions can be assigned to words and sentences apart from particular contexts of use. This is why adverting to them has genuine explanatory power.' Davidson, D. (1990) Inquiries into Truth and Interpretation, p. 247. Oxford: Clarendon Press.

practice a final Rationality, achieved through the application of criteria that have already been decided. In the broader scheme, putting to one side the problem of gathering specific experimental data, science already has the tools to achieve what it wants. However, it transpires that the idea that truth or objectivity consists in the application of certain criteria is itself a tool, a vocabulary which facilitates the enacting of the scientific method. New theories then, correspond to new vocabularies or the introduction of new metaphors as attempts to do more effectively what the scientific method demands of us. The idea of science being theory-laden and culturally determined now does not seem so controversial. Once we realise that the vocabulary of science just enables us to do certain things we will cease to worry about the distinctions between language and reality and objectivity and subjectivity. The model of truth as a property of vocabularies and as something which we cannot locate outside human discourses (or at least it is futile to attempt to do this) is amenable to the analogy of an infinite set of Russian dolls. Each layer gives way to another and there is no possibility of reaching an authentic core of truth that we have not conditioned, nor should there be any need to.

One of the implications of this creative view of truth is that nothing can escape from the linguistic web. We are all, so to speak, cast in the same net. That language 'goes all the way down' follows from the pragmatists' adoption of Nietzsche's approach to artistic self-creation and self re-creation. Nietzsche's announcement of the death of God and his deconstruction of the old way of 'doing philosophy' was a warning to those who still clung to realist principles in a secularised culture.³¹⁰ The

³¹⁰ See for example 'How the Real World at Last Became a Myth' in Nietzsche, F. (1990) *Twilight of the Idols/ The Anti-Christ*, pp. 50-51. London: Penguin. Ian Markham draws on this aspect of Nietzsche's oeuvre in his attempts to demonstrate how a belief in Rationality and

vocabularies we use to talk about ourselves, to 'create' ourselves, are inherited and are subject to re-invention as we acquire new metaphors and new tools for redescription. As we have seen, there is no sense in which vocabularies have to 'do justice' to some hidden, inner self. That would be a return to representationalism. So, just as we should not expand our meanings and truths so that they appear to be part of the architecture of the world, so we should not reduce them so that they appear to represent some eternal, inner truth about ourselves.

A significant feature of the vocabularies as 'tools' metaphor is that unlike their physical counterparts, as well as us using them, tools 'use us'. We can certainly see this in the religious language game as words here do not just make it possible to see people and the world in a certain light, they also transform and re-create our 'selves'. We have also seen how science can have a similar effect. Once we have realised that it is not Objective, as realists have claimed, it is a vocabulary that can have a transformative effect on the people who use it. A good example of this is Richard Dawkins. His approach nicely demonstrates the sort of realist approach to science that sees the world as a collection of facts waiting to be represented in a language, in his particular case, the language of sociobiology or 'evolutionary psychology'. The picture he is working with is of a patchwork of truths that can be drawn together in a unified theory, in a single vocabulary that is science. The language of evolutionary biology and genetics enables him to do certain things, to advance certain descriptions and to predict and control. What is made less explicit in Dawkins' writing is the degree to which the success of this sort of description is apparently so impressive that it can be then elevated to the status of a universal description which is seemingly able

realism entail theism. See Markham, I. (1998) Truth and the Reality of God: An Essay in Natural Theology, pp. 97-119. Edinburgh: T&T Clark.

to fulfil all our purposes. So evolutionary psychology becomes a way of describing everything we do, it is a tool which enables us to dig out the truth about human nature and expose it as the outcome of certain causal relationships.

In a way, the evolutionary model is amenable to a pragmatic perspective since it is a description which seems to emphasise contingency over necessity. It describes a process that is causal in a sense that is not progressive or teleological. This is just the sort of model that Rorty wants us to adopt. He wants to see us and our vocabularies (the things that create 'us') as the product of contingent, causal factors rather than as the outcome of something special. So, for Rorty, our language (and ourselves) is something that just happened. That we are able to use vocabularies as tools and that some vocabularies are available to us and others are not is the result of innumerable contingencies:

Our language and our culture are as much a contingency, as much a result of thousands of small mutations finding niches (and millions of others finding no niches), as are the orchids and the anthropoids.³¹¹

We must pause here for a moment because what Rorty is saying has a very familiar ring to it. The idea that culture, vocabularies and ideas are the outcome of random mutations with no objective standard intervening sounds disturbingly like Dawkins' own hypothesis about 'memes'. Rorty's interpretation of Davidson's approach to metaphor enables him, he believes, to approach the changes in vocabularies (suggested by metaphor) in a manner suggested by evolutionary theory. He does this

³¹¹ Rorty, Richard (1993) Contingency, Irony and Solidarity: Philosophical Papers, Volume 2, p. 16. New York: CUP.

because he believes that the model of metaphors as non-semantic suggests that the new vocabulary, that has been prompted by the use of a particular metaphor, is initiated on non-rational terms. In this way, he thinks, it also reflects the Kuhnian picture of the transition between different paradigms. There are serious problems with this model of vocabulary development and endurance and disanalogies with evolutionary theory. If we deal with the latter problem first we can immediately see the distinction between the 'blind' causal forces of natural selection and the facilitator of 'unforced agreement' that judges which beliefs are useful or true for language communities. In evolutionary theory, success is judged purely by ability to survive, or more accurately by ability to reproduce. There is no question of value or morality. In pragmatic terms, beliefs are 'true' if they are useful, if they enable us to do certain things or if they contribute to the scale of unforced agreement within a community. In periods of crisis or change it may well be that judgements are made which are non-rational and we may adopt a new way of describing things just because it has been suggested to us. However, it is possible for us to reject the fashionable vocabulary, or the vocabulary that has demonstrated the most survival power in favour of an older vocabulary that has supposedly been superseded by the surviving vocabulary. This might explain the widespread popularity of astrology in the West despite the widespread success of a scientific vocabulary.

Rorty might respond here that this is to miss the point. Communities adopt languages because they are in some way useful or effective. Vocabularies, remember, are tools. So those who find themselves using astrology, to adopt Rorty's model of how we acquire tools, find it useful to believe the causal picture afforded by astrology. Once the picture of astrology has been adopted (the decision to buy into it may indeed have

been suggested by a chance metaphor) it becomes 'true' because it delivers what the believer wants from it.

In a way, the confusion that Rorty's picture creates is an inevitable outcome of his laudable desire to erase the line between objectivity and subjectivity and between the self and the world. In denying science or religion the access to privileged ways of knowing the world (actually there is no world 'out there' to be known, hence his abandonment of epistemology) he has reduced all discourses to a rather bland level. The tyrannical democracy that Rorty has instigated has, at the risk of suggesting that there might be something special about the way humans think, also jettisoned any sense that there can be a spectrum of different discourses each with unique purposes. His plurality is not really a richness of different vocabularies, different descriptions and creative stances, but a world coloured by different shades of grey. This is where the analogy with evolutionary theory breaks down because humans are entities that 'do' things, that have purposes and use tools. Evolution has no requirements, it has no purposes: It is not a thing that one can adopt the 'intentional stance' towards.³¹² We can make predictions about its behaviour but this involves making no judgements about hidden desires or needs or purposes.

Rorty does not specify what role, in evolution, metaphors and subsequent new languages are to take. Presumably metaphor is the mutated gene that, if it is sufficiently 'suggestive', will eventually become 'literalized' in a new species (a new vocabulary). There are problems here because there is disagreement within the evolutionary psychology community as to what the unit of selection actually is.

³¹² For more on the intentional stance, see, Dennett, D. C. (1993) Consciousness Explained London: Penguin.

Some, Dawkins included, think it is the gene whilst others, notably Gould, think that it is the phenotype.³¹³ Under the latter description, a more holistic approach to language which accommodates it within other human activities, might give a more rounded picture of why some vocabularies are ‘successful’ or important to many people.

The attempt to identify common language games or common features of language games may seem to be an attempt to identify a common core or some universal fact about human nature. Under the model we have been proposing this is clearly not an option. We have accepted that it is not helpful to think that there is a truth about the human self that is more or less accurately represented in our vocabularies. Likewise there is nothing ‘out there’, there are no facts in the world to be represented in our ‘hopelessly inadequate’ language. We are certainly not advocating a return to a pernicious representationalism. If we focus on the subject of shared human needs, beliefs and desires for a moment we might perhaps be able to develop a more constructive theme.

Human Nature, the Uses of a Religious Description and a Useful Proposal for the New Relationship between Science and Religion

The belief that there is such a thing as Human Nature, universally applicable, is not widely held in post-modern society. Our pragmatic approach tells us of the contingency of truths whether they be about our environment or ourselves. Our

³¹³ Dawkins’ celebration of the role of the gene appears in Dawkins, R. (1989) The Selfish Gene Oxford: OUP. To discover more about Gould’s position, see: Gould, Stephen, J. (1986) The Flamingo’s Smile: Reflections in Natural History Middlesex: Penguin

individual nature, our self which forms the core of our existence is as much a creation and a construction as any other feature of our linguistic world. This is not to deny that there are certain truths that can be told about us and the wider community which persist over long periods and create the illusion that they are objective or eternal Truths. This thesis has argued that such a link is not sustainable. There is a middle way, though, between, on the one hand, absolutism and on the other, an ephemeral flux of meanings and truths.

Rorty, as we have seen, is keen to emphasise the notion of contingency. He uses this, in a qualified sense, to highlight the view that there is nothing necessary about our vocabularies. Linguistic space is potentially infinite - the only restriction is that language games should be useful in some manner. Statements within language games become true according to their ability to satisfy the truth conditions laid out within their language game. The notion of truth is not even really important so much as the idea of 'unforced agreement'. Truth in the Rortian sense is just a compliment paid to something that a language community agrees upon, it does not confer any extra knowledge or special metaphysical status.

When it comes to human nature or the idea of the self, there is a tendency to balk at such descriptions because they seem to leave out something essential and to render us *nothing more than* fictions. This is where we find the interface between philosophy and literary criticism and concepts such as the 'death of the author'. Such ideas have proved fruitful for those working in a number of disciplines and recently it was

utilised by Daniel Dennett as a way of describing his so-called 'multiple drafts' model of consciousness.³¹⁴

Phrases such as 're-inventing yourself' have become part of everyday language. One suspects, though, that the majority of people would not understand it in the same way as Rorty or even Nietzsche, in the sense of changing the stories we tell out about ourselves and hence, literally, changing our selves. There are, presumably, various contingent facts that preclude me from announcing my re-invention as a Russian aristocrat (not least my British lineage). Even though this is a fact about status and heritage, which are culturally derived. There are certain facts about us, as people, that many would argue are so important that they 'transcend' the merely contingent. Again this is not an attempt to make a metaphysical claim about the status of the self or about some other abstract concept such as 'human nature'. The Stoics made a similar distinction between the soul and the physical world but it was crucially a moral rather than a metaphysical distinction (obviously the Stoics did have a carefully constructed metaphysical system but this point can stand independently of the accompanying metaphysical baggage.)³¹⁵

Many people would agree that their self-image, or their personal narrative, has negative factors. They might project a time in the future when they will more fully

³¹⁴ See, Dennett D. C. (1993) Consciousness Explained London: Penguin. Dennett has been much criticised for his question-begging book. One of the chief criticisms of his approach from a pragmatist perspective is why should consciousness need an explanation given that it is something that has arrived after eons of contingencies. We have languages that enable us to talk about consciousness ('folk psychology') and scientific theories about the workings of the brain. Both vocabularies happily coexist because they are different tools which enable us to fulfil different purposes. If the vocabularies overlap then we must decide whether our current tools are ineffective and make suggestions about how they might be modified. We do not resort to reductionism or to a model that emphasises conflict.

³¹⁵ See, Long, A.A. and Sedley, D.N. (1992) The Hellenistic Philosophers: Volume One Cambridge: Cambridge University Press.

become 'themselves' or at least a better version of their current 'self'. No one would deny that it is possible for personalities to change and grow (or regress) but many would want to say that there is something that remains, that there is some continuity that survives change. It is not necessary here to appeal to some mysterious inner homunculus who is the guardian of all our unspoken pure thoughts and traits. The idea of the 'central meander', which Dennett attacks, was never really a credible idea, whether it was the rational soul of Descartes or the spiritual self of the mystics. Such conceptions do not really get us anywhere since, for example, the mystic, despite her protestations about the ineffability and purity of her secret, still has had her experience shaped and 'contaminated' by some common human language (demonstrated when the 'ineffable' is subsequently communicated to others). The idea of pure thought, of thoughts that have not been shaped by culture and wider human society, but have come from some other realm, is as unhelpful as the related idea that there is a language of thought – 'mentalese'. Once we have adopted a certain way of talking about ourselves it becomes difficult to accept change. We can, if we are sufficiently strong willed, change certain aspects of ourselves but often our narratives become reasonably fixed at a relatively early stage. There are certain traits which we would regard as being an essential part of us. There are certain truths about ourselves which we would be reluctant to give up as mere contingencies. To use Rorty's terms, the metaphors we experimented with in our self-descriptions have become literalized. We have become those stories that we have been telling about ourselves. This is not an attempt to find an objective grounding for our 'self'. It is an anti-representationalist approach to selfhood. We are not employing the usual substantial language or ocular language, which usually accompanies such a position,

but instead we are searching for some sort of unforced agreement about what it is to be a person.

Rorty might respond here that we are still working from within a representationalist framework and that we are trying to 'do justice' to this thing that lies ever beyond language. We are just making the same mistakes whilst co-opting a slightly different vocabulary. But this is precisely the point since by his definition of metaphor it is in the dramatic juxtaposition of words, which do not belong in language games, that we can suggest new vocabularies or new, fruitful ways of using old vocabularies. It is Rorty himself who grants us, after Nietzsche, this extraordinary power to create and re-create ourselves by adopting new vocabularies. Surely it is not beyond our reaches to search for some unforced agreement about what beliefs and vocabularies are important to us. We are not talking about privileged access to arcane facts. There is no need to invoke some independent standard outside language since we can find agreement amongst communities of persons about what should count as cherished vocabularies, whether they are about our 'selves' or about other groups of causal relations.

This seems to be the only sensible way (and Rorty stresses that he is in favour of a common sense approach to rationality) to find a way of coping with what we can at least identify as one important belief – in a 'self' as something that has certain irreducible qualities. And what are these irreducible qualities but the beliefs, desires and attitudes that *are* our chosen language games. Note that we are not here making a distinction between these qualities and a 'self' that is experiencing them. What we are stressing, like Rorty, is that there are limits on the sort of language games that can

'become us' or can be used in the world. To believe that there are no such limits is to believe in a sort of linguistic idealism or a radical subjectivism where the self stamps its seal onto a *tabula rasa* reality. This 'cookie-cutter view'³¹⁶ as Rorty has called it, is clearly not really an option. Our language and our beliefs would quite probably be radically different if the world (as a causal presence) were not the way that it is.

It is interesting to remind ourselves that Rorty is guilty of at least one realist assumption - that the '...world is out there'.³¹⁷ Admittedly he does not mean the world described in our language as containing meanings and truths but the world as a causal force. In this sense, he appears to sidestep any accusations of realism and seems to be acknowledging that '...most things in space and time are the effects of causes which do not include human mental states.'³¹⁸ In this way he seems to be able to enjoin a constructivist approach to reality with a humble anti-anthropocentrism. We may as a species enjoy considerable creative powers but to believe that without us, the world would collapse is a misguided vanity. Admittedly, neither Rorty nor anyone else is able to step outside of language or human consciousness to independently confirm the existence of this meaningless world but it is reassuring to believe that it exists.

One of the consequences of a pragmatic approach or any approach that emphasises the usefulness of language games over their ability to represent some objective reality is that all we need to do to reach agreement about what is to count as true is to do just that - reach an 'unforced' agreement. We do not need to construct independent

³¹⁶ Saatkamp, H. J. (Editor) (1995) Rorty and Pragmatism: The Philosopher Responds to His Critics, p. 191. Nashville: Vanderbilt University Press.

³¹⁷ Rorty, Richard (1993) Contingency, Irony and Solidarity: Philosophical Papers, Volume 2, p. 5. New York: CUP.

³¹⁸ *Ibid.*, p. 5.

criteria for judging the truth of statements within a language game; we could not do that even if we wanted to since justifications must always be couched in some vocabulary or another and it must be a vocabulary that is sensitive to the function of the language game. Justification, then, comes from within language games. Where language games appear to conflict with each other we must ask whether it is because they are rival attempts or tools to perform the same task. If this is the case then we are forced to consider whether our existing language games are effective for the task in hand or for the uses that they have suggested to us. We will return to this point in a moment.

The question of human nature is supposedly one that is dissolved by a pragmatic approach along with all other attempts to formulate foundations or universals. However what we can do, without fear of contradiction, is introduce locally applicable descriptions of human nature based upon vocabularies common to members of communities. There is, then, nothing to prevent us from extending these descriptions across community boundaries providing we can reach agreement about common usages. By examining the ways in which people have chosen to 'create themselves', whether as people who find religious language games useful or scientific language games useful, or both, we can learn something about the functions of vocabularies.

At the moment this may sound like a tautology. We can discern what language games are useful for people by looking at the way in which they are used. Remember, though, that our version of pragmatism emphasises the causal constraints that operate on the language games that we can adopt. This is different from saying that some

vocabularies better represent facts about the world or about our 'selves'. Our anti-epistemological approach denies that there can be more privileged ways of knowing, ways of getting at the Truth about the world. More or less effective vocabularies and ways of coping can only be determined by causal pressures. The derogatory term for the way we have found to cope with everyday psychological causality is 'folk psychology'. Its effectiveness is proven by its widespread usage. But it is effective not just because it has survived as a language game. This is where Rorty has been beguiled by the evolutionary approach to language and by his desire to completely naturalize language. He has taken an overly reductionistic path. In many ways Rorty is like Dawkins, someone who has become so consumed by the success of their particular language game that they believe it can somehow save us from ourselves. In Dawkins' case evolutionary psychology is a bold, grown up and rather macho vocabulary that can rescue us from the sort of childish escapism offered by religion.³¹⁹ We are not the sort of people described by religion; we are as contingent as the rest of the world (as the rest of our meaning- conferring, linguistic world or the world 'out there'?) and the sooner we realise this the sooner we can start to live more authentically. Similarly, in his mission to erase the boundary between the subjective and the objective, Rorty wants to lose both the 'real world' and the 'self' and replace it with a flux of transferable language games, meanings and truths. He wants us to get rid of the quaint, rather naive notion that the truth is 'out there'. So the idea that our languages are converging on truth, whether they be scientific or religious languages is no longer tenable.

³¹⁹ This idea occurs throughout the Dawkins canon but is forcefully put in Dawkins, R. (1996) River Out of Eden London: Phoenix

The problem is that many people still hold to this, no longer tenable, view. We have studied, in this thesis, the work of Polkinghorne, Devitt, Markham, Rescher, Van Huyssteen and Herrmann and all are still in rapture to some version of convergent realism. The picture endures even if we, as pragmatists, have announced its death. There must be some sort of explanation for this. That it has survived so long as an idea is evidence of its 'fitness', in evolutionary terms, but, as we have been arguing, this is not an adequate way of describing the success of an idea. People, it turns out, are capable of believing all sorts of foolish things and of persisting with using one vocabulary even when it has, apparently, been superseded by another. Even if the new one is apparently more effective at doing what the old one did. Admittedly, tools can be useful in different ways and different tools more effective in different contexts. But languages are a special sort of tool because as well as being used they can 'use' or change the person that is using them. Clearly we cannot ascribe use here to language in the sense of some sort of conscious act but rather as a transformative power that is complicitous with the person 'used' in re-creating that person. Religious converts often talk of their experience of conversion in terms of coming to see that to which they were once blind. This idea of seeing what was once not there is echoed in Wittgenstein's conception of 'seeing-as' or of seeing the 'echo of a thought in sight'.³²⁰ Here, once the religious vocabulary has suggested itself to someone, it can very quickly become a whole new way of seeing which transforms both the environment and the person. This sort of experience can equally be attributed to a scientist who has seen the implications of some new metaphorical redescription.

³²⁰ For Wittgenstein's discussion of 'seeing-as', see, Wittgenstein, L. (1953) (Translator, Anscombe, G. E. M.) Philosophical Investigations, pp. 193-214. Oxford: OUP.

Under the Rortian re-conception of rationality, as common sense or unforced agreement, we can, perhaps, understand why confusions arise about the apparent conflicts between different language games. The problem with philosophical realism is that it seems to either create the initial conflict between science and religion or to create problems later. The consequences, that we have explored, of such an approach, nullify the usefulness of a consonance or integratory approach. The 'Creative Tension Model', which we are proposing, begins with a recasting of the pragmatic approach so that unnecessary dogmas are eliminated. Just because we cannot (or should not attempt) to root human nature or personhood in some form of Objectivity, either scientific or religious, does not mean that we cannot accept some truths about what it is to be a person. It does not matter that these truths are contingent or that they are created by our vocabularies, just that we can find some local agreement about them. This seems to be an eminently acceptable development of Rorty's liberal ironism applied back on itself (we reject dogma and acknowledge the contingency and ephemeral nature of our beliefs) since one of the consequences of rejecting dogma is that we do not have to subscribe to the one that says there are no truths about human nature.

The problem comes when we have to decide which beliefs we should accept as constitutive of human nature or, to refer back to a term we have been applying throughout this thesis, personhood. We have seen that to go on to call a vocabulary, or statements within a vocabulary, 'true' is a rhetorical act that adds nothing except to reconfirm the valued usefulness of something. As such, usefulness is determined by the effectiveness of a language game in delivering whatever its users demand of it. So for writers, such as Dawkins, 'human nature' is our common genetic heritage and the

various techniques we have developed and retained as a result of their evolutionary effectiveness. This description is something that is useful for predicting certain types of behaviour and 'explaining' why it is that people behave in certain ways. However, the description of a human being as a chance result of innumerable contingencies is not acceptable as a Christian view of personhood. But, as we have seen, there is no right description, only acceptable descriptions, useful for different purposes. The evolutionary description does not reveal the final vocabulary that the world has given us to use for our descriptions of human nature.

Similarly, the perspectivalism, espoused by Polkinghorne (explored in Chapter 1), is an acknowledgment that our 'nature' changes according to the description or perspective we choose to take. We do not need, however, to couch this sort of epiphany in rather perplexing metaphysical terms, however, because truth is not something extra to be 'tagged on' to language games. This is to assume that our ways of speaking are somehow tentative theories about the way things really are. The idea that there are pluralities of truths or, rather, of descriptions, is a helpful outcome of the pragmatic approach since it 'democratizes' beliefs. One of the obvious problems with such an idea, though, is the question of how we are to decide between vocabularies that appear to be in competition. The absence of any objective standard means that we are left with only 'unforced agreement' as a way of getting people to accept our perspective. We can only try to convince others that our way of doing things is more effective than theirs and hope that they will join us in adopting it. This gives us a hint of how we are to reconcile the divergence between the scientific and religious conceptions of what it is to be human. We can either say that both language games are trying to do different things – they are different tools for accomplishing different

tasks or, we can say, there are moments when their interests meet and we are forced to reassess the effectiveness of both descriptions. This is where we can encounter difficulties and where we may see a number of specious moves being made by those representing both language games. It need not be a problem, however, and this is what the Creative Tension Model seeks to demonstrate. When applied to the problem of human nature and personhood it allows us to appreciate the benefits of both scientific and religious vocabularies without resorting to absorption or reductionism. As we have seen, attempts to 'reduce' one language to another always fail because the resulting language is never able to facilitate all the uses that are demanded of it. A description of a person using religious language that ignores any of the insights afforded by scientific vocabularies leads to a less coherent and less useful religious vocabulary. The creative influence of science upon a religious view of humanity allows for religion to develop and refine itself in ways that make it more convincing and persuasive to more people. There is no sense here in which religion is in thrall to scientific description – for purely pragmatic purposes it is just sometimes useful for religion to revise itself in the light of new scientific redescription. We must be careful to avoid the dangers of integration here and this is the 'tension' aspect of the model that prevents one discourse from collapsing into the other.

The problem with critical realism ultimately, as a philosophical framework for science and religion, is that it tends to give the scientific narrative primacy by requiring the religious one to be translated into scientific terms. Such an approach is ill advised because it inevitably fails to adequately represent the full descriptive force and intention of sophisticated language games such as Christian theology. The attempt to reduce everything to a scientific language game is prompted by a belief that the

'truth' about the world can be best told by a scientific vocabulary. This reflects the, already alluded to, tendency of critical realism to carry with it the LPD. For example, the revelation that 'love' is 'caused' by (or is nothing but) a cocktail of chemicals in our bodies does not really help us to understand how it is that we relate to someone in a particular way. For this we have to turn to other vocabularies. There are certain aspects of experience that cannot be captured in just any language game (even one that claims to speak the language of nature).

The trend towards integration, as we have seen in the work of Polkinghorne, should be avoided because as we have seen, it can often lead to inappropriate conclusions. We can avoid the theological-science hybrids, which lead to problematic models of personhood and resurrection, once we abandon the idea that religious or theological descriptions must, somehow, be capable of being transposed into scientific vocabularies. Even if these attempts are (in the case of Polkinghorne) just 'conjectures' about possible methodological resonances, they are still implicitly working from within the old picture of language as something which is trying to represent truths about the world. The success of science from a realist perspective is posited upon its ability to capture the truth about the natural world: scientific theories, whether they are merely provisional or otherwise are able to tell us something about the true nature of things. It is hardly surprising that anyone working from within this picture would want to either reject alternative ways of describing the world or to amend these alternative vocabularies so that they are more in tune with scientific truth.

This is not an easy task to accomplish and, as we have seen, even extremely accomplished writers, such as John Polkinghorne, have been unable to successfully carry through the project. The Creative Tension Model does not see it as important to make one description accord with another, in fact, it actually discourages it because the end result would be that both descriptions are compromised. The specific uses for one type of description are overlooked or eclipsed by the quest for the Holy Grail or panacea of an integrated response. This is not, of course, to deny the possibility of creative influence between vocabularies.

So, a benefit of the Creative Tension Model is that it enables respect and value for the insights of different vocabularies without accepting that any offer a complete perspective on the true nature of things. So we can adapt the religious view of personhood, as someone who has a soul and a body, to a Dawkinsian view of people, as 'gene machines' without having to say that that is 'all' we are. When we claim that evolutionary theory is perfectly compatible with a religious description of the development of humanity we are not reducing the religious vocabulary to the vocabulary of a branch of science. Instead we are using the insight of a scientific description, which clearly has an impact on the religious doctrine of creation, in a way that increases the usefulness of the religious description.

The question of whether we can identify a common 'human nature' is difficult and, Rorty would argue, irrelevant since we should be more concerned with plurality and with keeping the issue and the conversation going. However, there is nothing wrong with making provisional agreements about what common characteristics we share. This is not provisional in the sense that a critical realist description is a provisional

description of reality which might be replaced by a yet more accurate representation of reality. Instead, it is provisional in the sense that new more useful ways of describing what it is to be human might come along. A chance metaphor here or there might 'explode' the issue of personhood and propel us into an entirely new way of talking about ourselves. At the moment, though, for the purposes of this thesis, we are not concerned with giving an exhaustive description of what it is to be human. We have seen the dangers of attempting exhaustive descriptions in the words of one vocabulary or another. In a way, our thesis is 'radically non-radical' in that it makes no bold claims about the true nature of the relationship between science and religion, either in the way they talk about us or in the way they talk about the world. Instead we are making the much more modest call for reasonableness and common sense in any future approaches. In a way, given the current nature of the 'debate', this is actually a dissenting, radical cry. The richness of human language and the breadth of the different uses to which it is put are such that it would be foolish and churlish (to ourselves) to attempt to exclude descriptions from our world. As such we must conclude that plurality is the only valid way of coping.

The Creative-Tension Model

So now we come to the heart of the proposal in this thesis. We have seen the problems of employing a critical realist approach to the interaction between science and religious discourses. It is problematic because it is implicitly disposed towards judging religious concepts by their ability to be synthesized with scientific concepts. These Logical Positivist Dispositions tend to lead to a misrepresentation and a denigration of religious language. The task is to find a way of reorienting the

relationship between the two disciplines which does not depend upon separation or the subordination of one discourse to another. The Creative Tension Model (CTM) is offered as a solution to this problem and can be summarized thus:

1 Discourses are not representational in character.

Now, of course, there are moments when language operates in a representational way; however, in general, following Rorty, it is unhelpful to think of discourses as representational. It misunderstands the task of a discourse: It is intended to help us enrich our understanding of life. So the first component of CTM is to think of discourses as anti-representational.

2 Religious and scientific discourses should be treated contextually: the meaning of both discourses is rooted in their *usage* rather than in their ability to represent reality.

It is not the task of discourses to uncover the true nature of reality but rather to help uncover and enrich different aspects of human activity. It is therefore appropriate to focus on the aspect of experience and the success of a discourse in enriching that experience rather than on its ability to disclose 'reality'.

3 Religious and scientific discourses can coexist. Reduction of one to the other is strictly forbidden unless it is locally useful to do so.

Given that the two discourses are concerned with articulating different aspects of experience it is wrong to allow one to be consumed by the other even if their concerns might occasionally overlap. Remember, we are not concerned with representing Reality but with allowing

different human concerns to be expressed and to flourish. Attempts to reduce one discourse to another are characteristic of realist approaches which we have found to be problematic.

4 Religious and scientific discourses can capture aspects of the richness of human experience.

Human discourses have developed as responses to problems or as attempts to crystallize the sort of experiences that are common to humanity. This is not to claim that they reveal some eternal, objective truths about the human condition but rather to acknowledge that they have emerged and they survive because they are successful in some capacity. In this way science and religion are equally valid attempts to explore and reveal aspects of the richness of human experience.

As we have seen throughout the thesis, science has clearly had a great impact upon the way that we think about religion and the way that we do theology. Science today is a major cultural influence and in the West is perhaps the iconic cultural force of the age. If religion is to remain relevant and effective and is to reflect the culture it grows from (as this thesis believes it should) then it must be aware of science and its place in relation to science. There are various options available. We could argue, for example, that science and religion offer rival approaches to similar experiences or facets of the world. If we follow this line then some might argue that there can be only one correct approach since they both claim to tell the whole truth about a state of affairs and their version exhausts the resource of truth (as seen in the work of Richard Dawkins). Since neither group is prepared to give way or compromise (by definition, this position allows for no compromise) the result is perpetual conflict and schism.

Often this position is based upon the premise that science and religion are attempting to address the same questions with varying degrees of success. An associated characteristic of this approach is a reductionistic drive, already hinted at, which is founded upon a belief that there is only one truth to be told about the world. This desire for an overarching narrative is a rather anachronistic modernist trait which has its origins in the enlightenment. As well as being philosophically naïve (the idea of the grand metanarrative has fallen out of favour) it also fails to reflect the character of our experience of the world.

We must pause here for a moment because this seems to be dangerously begging the question - whose experience of the world? Perhaps for some people living in isolated, 'pre-modern' (or modern) communities there is only one story to be told about the world, or at least one category of stories to be told about the world. One thinks of the aboriginal creation stories, the Songlines, and the way they reflect and explain experience as a whole.³²¹ We need not look, however, to what are often pejoratively described as 'primitive' cultures to see evidence of these monolithic interpretations of the world. The modern monolith in the West is science and the 'scientific view of the world'. For many, science has either given us a truer picture of the real nature of the world or it has supplanted traditional religious language as the best way of describing religious truths. This latter approach which attempts to address the truths of religion using scientific descriptions has been attempted by the so-called, 'scientific creationists'. Again, though, the premise common to all approaches we have been investigating is that science somehow gives us insights into the true nature of things. Once this has been accepted, the religious believer has to go about reconciling this

³²¹ See for example, Chatwin, Bruce (1988) The Songlines London: Picador.

with their vocabulary which also claims to uncover the truth about the world. Again, LPD are in evidence, doing their damage both theological and otherwise.

Where once our resource of vocabularies might have been limited, we now have a multiplicity of descriptions, each one effective in its own way. What we should be concerned with, as pragmatists, is to look at the ways in which vocabularies affect each other and how this informs us about each of them. We are particularly concerned with the impact of scientific descriptions of the world on religious descriptions. As we have seen there is clearly a point of cross-fertilization where the two discourses seem to be attempting to do the same thing. A good example of this is the relationship between evolutionary theory and Christian doctrines of creation. The 'conflict' approach sees the relationship in rather simple terms and the typical result has been that evolution has 'won' as the better description of the true nature of things. However once we realise that there is no such thing as a description that represents the truth about the world, but rather there are just different descriptions which serve different purposes, the relationship between them becomes more interesting. The creative-tension model attempts to reflect this more dynamic relationship and highlights the ways in which both discourses can benefit from acknowledging their relative autonomy. This is not autonomy in the sense that the 'two languages hypothesis' proposes, where both disciplines are so diverse and concerned with doing completely different things that they have nothing to say to each other. This would be to ignore the creative tension that clearly exists between the language games.

The sensible approach, the approach that we are proposing, is one that recognises the ways in which science and religion can gain mutual benefit by contributing to each

other's effectiveness. In the case of evolutionary theory, the scientific description offers those who use a religious description an opportunity to develop the way they use their creation language to contribute to inter-vocabulary agreement. The religious language game becomes more effective not because it is now representing reality in a more effective, 'scientific' way but because it is engendering more intra-community agreement and hence becoming more effective as a descriptive device and as a persuasive force. The rejection of all forms of realism frees us to explore the links between language games without having to worry about whether one description should conform to another 'more true' description. The idea that one description is the right description is a legacy of the picture of language as something that, with varying degrees of success, represents reality. All that is required is that we should be satisfied that our vocabularies are doing what we want them to do. That they sometimes seem to conflict with other vocabularies should suggest to us that perhaps we could make some amendments to increase their efficiency. This should not be seen as a weakness in our language game but rather a strength, demonstrating its ability to adapt and survive.

We have thus seen how different discourses can have a creative influence on each other (we are more concerned in this thesis with the influence of science upon religion) and can lead to improved, stronger and more effective vocabularies. What we have not outlined is the tension which exists between the discourses – a tension which keeps science and religion from being absorbed into each other or from one discourse discrediting the other. Our consideration of human nature revealed that we can, *contra* Rorty, at least make some provisional conclusions about human personhood. We found that we are different sorts of things according to the sort of

description that we choose to fall under. Indeed, the different descriptions can co-exist with each other providing we can agree that none of these descriptions inhibits the effectiveness of the others we choose to accept. There are certain discourses that are relatively common across different communities and this level of agreement entitles us to say something general about the sort of discourses that people find useful and hence reveal something about what it is to be human.

So we are entitled to say that, among other things, we are creatures for which religious language provides a useful discourse, given the various cross-cultural references to religious language. The limits, discussed below, on the descriptions we can adopt protect against criticisms that any given description is ineffective or outmoded. This is more a sociological point dealing the widespread incidence of theism which does not appeal to any outside rationality as a justification for the success of religious descriptions. They work because they enable us to do certain things, to see the environment and other people in a particular way which makes sense. This is not to reduce it to the level of expressionism as some anti-realist thinkers have attempted to do, (Cupitt for example).³²² Religious language is not just the expression of sub-conscious religious urges. This amounts to saying nothing more than 'people are religious because they are religious', it reveals nothing of the reflective and enabling qualities of religious belief. In denying the anti-realist path we avoid setting up the opposition between realism and anti-realism which, as we have seen, generates problems. We are making no assumptions about why we turn out to have this religious vocabulary, we are just acknowledging that we have it and that it seems to be effective. This is part of the distinctiveness of the Creative Tension

³²² These themes are developed in his recent work, Cupitt, D. (1998) The Revelation of Being London: SCM.

approach. It means that we can, at the same time and without contradiction, be a collection of atoms and a person who loves and is religious. We can also be atheists. This is one of the benefits of a pragmatic, pluralistic approach.

So, under different descriptions we become a different sort of thing. But as we have seen there are causal factors that limit the sort of things we can be. These causal factors place limits on the discourses we can effectively adopt. So, for example, if I were to believe that I was a ghost and that my insubstantial nature enabled me to pass through solid walls I might soon encounter descriptive problems with my vocabulary. Other problems might emerge if we were to endorse the theory that we are just a collection of atoms and nothing more. This might be problematic when it emerges that we are unable to predict the actions of other conscious people just by attending to the motions of their atomic structure. This sort of description, while useful for atomic physicists might not be very useful for us on a day-to-day basis. So, certain descriptions are appropriate for different purposes. To say, then, that the language of science should replace the language of religion because it is better at doing certain things is not an option since the sort of things we can describe using science do not always have a creative impact of religious language. It is for this reason that we should acknowledge the relative autonomy of the discourses and the usefulness of both as descriptive contributions to the richness of life. That science and religion should be held in creative tension is the acceptance of this. However, in order to better understand the dangers of critical realism we must examine it in practice since we are primarily concerned in formulating a model for interaction that emphasises usefulness. We shall briefly look at the hugely influential contribution of Richard Dawkins whose interpretation of evolutionary theory has grave implications for

religion. We will also look at the Creation Scientists who have enjoyed considerable success in gaining acceptance for their model in America. We shall always be concerned to show why it is that the realism which drives these perspectives is unhelpful, damaging and ultimately should be replaced by the Creative Tension Model. We conclude by applying the Creative Tension Model to problems surrounding the scientific and religious responses to the question of origins.

Chapter Six

Creation and Evolution: A Preliminary Application of the Creative Tension Model

In this concluding chapter we will explore the question of human origins, a key concept in both science and theology. It provides a focus for the debate about the interaction between science and religion and demonstrates why critical realist approaches to the problem are unhelpful. The influential position of Richard Dawkins reflects what happens when the LPD is taken to its logical conclusion: The religious narrative is not only demeaned but is completely rejected as meaningless (unscientific) discourse. The Creation Scientist does not defend the theology of the text, but instead capitulates to the LPD by insisting that Genesis should be read as a scientific discourse. The end result, as we shall see, is that the religious context is displaced and considerable theological damage is done. We will suggest a possible application of the Creative Tension Model (CTM) that resolves the problem without compromising either discourse.

Introduction

The principle argument of the CTM is that realist interpretations of science and religion ultimately lead to conflict or confusion when the two vocabularies meet. However, as we have seen, critical realism is a very popular position amongst the ranks of the scientist-theologians we have identified. They see realism as something that actually promotes interaction between the two vocabularies, even providing

grounds for uniting them to more fully reflect the diverse aspects of Reality. In their vision God is to be found not just in the transcendent but woven too into aspects of human existence and the natural world. John Polkinghorne identifies the openness of chaotic systems as giving some space for divine manoeuvre. In this way the mechanism of God's *providential activity* (a theological concept) is explained in terms taken from a scientific vocabulary.³²³ Ian Markham fuses ideas about the universality of our logical laws and some assumptions about the representational character of our language to create a cosmological argument for the theistic grounding of objective truth. The feature common to both approaches is a commitment to critical realist accounts of language. As Markham puts it: '....World Perspectives are attempts to make sense of reality as experienced.'³²⁴ This is the starting point for all realist approaches and as the CTM argues it leads to inter-discourse conflict and ultimately to an impasse where alternative 'true' descriptions of 'reality' face a stand-off.

The front line for this conflict, since the nineteenth century, has been drawn between religious accounts of creation and scientific theories of origins. Barbour rightly points out that the seeds of the conflict model were sown in Galileo's time. Galileo argued that scripture should be interpreted literally unless a contrary scientific description can be '....*irrefutably* demonstrated'.³²⁵ However, the character of the current conflict has its roots in the more recent confrontation that took place in the Nineteenth century. This was an argument about origins. To better understand why the theory of evolution has created so much controversy, and still polarises scientific and religious

³²³ See Chapter One and Polkinghorne, John (2000) Faith, Science and Understanding, Chapter 7. London: SPCK.

³²⁴ Markham, Ian (1998) Truth and The Reality of God: An Essay in Natural Theology, p. 49. Edinburgh: T&T Clark.

³²⁵ Barbour, Ian (2000) When Science Meets Religion, p. 8. London: SPCK.

communities, we should pause to look at the intellectual background that gave rise to the theory.

The History of the Evolution Controversy

Michael Ruse, the Professor of history and philosophy at the University of Guelph in Ontario has produced an extensive and influential series of texts examining the history and current status of the evolutionary controversy. It is widely held that when Darwin first published Origin of Species in 1859, many people found it to be offensive and contrary to their religious beliefs. The theory of natural selection was felt to be odious because it seemed to reduce what had been thought of as a sacred process to a series of random, undirected acts. The controversy had been initially sparked at the beginning of the Nineteenth century when the French biologist, Jean Baptiste de Lamarck became the first to crystallize some of the existing ideas about acquired characteristics into a theory of evolution.³²⁶ There was some dispute over the scientific credibility of Lamarck's thesis but the most vocal criticisms were made on religious grounds. These centred on the issues of teleology and divine design and the apparent contradiction of God's special role for humanity in the Creation. However this interpretation of the controversy is too trite and well trodden for us to garner any real insight into the background of the conflict model of science and religion. In order to achieve this, Ruse suggests that we look back to the 1830's where he identifies two basic positions in the science and religion debate. In Ruse's taxonomy those involved fell into either of two camps, 'liberals' or 'conservatives'.³²⁷

³²⁶ Ruse, Michael (1982) Darwinism Defended: A Guide to the Evolution Controversies, pp. 6-10. Massachusetts: Addison-Wesley.

³²⁷ Ruse, Michael (1996) But is it Science? The Philosophical Question in the Creation/Evolution Controversy, p.51. New York: Prometheus Books.

Ruse identifies Lyell's 'Principles of Geology' as an early example of the liberal position that argues for geological uniformitarianism against the prevalent catastrophism of the time.³²⁸ The result was that the previously existing close links between Biblical and geological interpretations were severed. This was the beginning but the definitive statement of the liberal position, Ruse suggests, came through a pamphlet produced by the Savilian professor of geometry at Oxford, the Reverend Baden Powell; it was called 'Revelation and Science'. Powell pushed for the limits of science to be extended even if this meant it contradicted Biblical narratives about natural processes. Indeed, Powell asserted that existing scientific knowledge demonstrated the speciousness of literal interpretations of the Biblical narrative. Using the argument that God's gift of reason would not allow us to maintain contradictory truths he held that the Bible must not be approached as a text holding literal truths but rather as something containing poetic or metaphorical truths about humanity's relationship with God.³²⁹

In this 'liberal' movement we see the beginnings of an approach which attempts to resolve the science and religion conflict by distinguishing the different intentions of the two narratives. Both science and religion are seen here as truth-seekers but concerning themselves with altogether different levels of truth. In separating out the motivations of the two vocabularies the desire is to remove any grounds for conflict. For the 'conservatives', though they agreed that the Bible should not be taken literally, they diverged from the liberals in their appreciation of the Bible as an

³²⁸ For more on catastrophism and uniformitarianism please see the section on scientific creationism.

³²⁹ Ruse, Michael (1996) But is it Science? The Philosophical Question in the Creation/Evolution Controversy, p.52. New York: Prometheus Books.

historical record of humanity. The arch-conservative and professor of mineralogy and (latterly) of moral philosophy at Cambridge, the Reverend William Whewell, argued that it would be foolish to ignore the ‘evidence’ of Biblical records of the Flood. He was also less inclined to accept a ‘poetic’ interpretation of the Bible because he felt that when it came to geological history, certain events have no contemporary precedent so we are forced to rely upon the evidence of contextual material. Ruse notes that Whewell does not explicitly argue for a literalist interpretation of the Bible along the lines of latter day scientific creationists but he does imply that science is entitled to use Biblical texts as an evidential resource.³³⁰

The problems become more pronounced when we turn to the subject of natural theology and questions about design and teleology. Conservatives felt that religion gave credence to the scientific claim that organisms demonstrate ends-directed behaviour. The idea that the organization in the natural world pointed towards ‘final causes’ was a popular conservative view of science at that time. It enabled them to argue that scientific evidence alone suggested that there was an underlying design to the natural world. Inevitably, the course of any design argument must lead to the ‘final cause’ itself and here the Conservatives argued that we must reach beyond science to the religious explanation and to God.³³¹ It is worth noting that even though the thesis of ‘final causes’ is claimed as a purely scientific observation it is fairly certain that the conservatives’ science was informed by their religious sensibilities.

³³⁰ Ibid., p. 52-53. Ruse stresses that the divisions between the two groups were not perhaps as clearly defined as he suggests. Both groups felt that scientific advances should force a reappraisal of the meaning of the Bible but conservatives were certainly more inclined, when they felt their beliefs were directly threatened by science, to take a more literal line of defence.

³³¹ Ibid., p. 53. At this point we are not really concerned with analysing the details of the design argument and how exercises in philosophical theology seem to conflict with scientific vocabularies. We look at these questions in detail in our sections on Richard Dawkins and Scientific Creationism. At the moment our concern is to survey the historical background of the conflict between scientific and religious narratives of origins.

In broad terms the liberals were in agreement with the conservatives' conclusions about the element of design in the natural world. Both groups also felt that natural theology should remain separate from science and that the thesis of 'final causes' was a scientific rather than a religious concept. The main point of divergence for the two camps was over the issue of the extent to which God was directly involved in the design process. Where conservatives wanted to portray a God who was active in creating organisms directly, liberals felt that it was more helpful to picture God as acting at one remove, through consistent laws. For Charles Babbage and Baden Powell it was far more compelling and impressive to think of God using the mechanism of universal natural laws rather than creating each individual organism directly.³³² Clearly the liberals, though still committed to a realist interpretation of the role of God as a designer, were far more flexible and open to new scientific theories about the specific mechanisms driving creation than their conservative counterparts. Now that we have some understanding of the intellectual context into which Origin of Species was thrust we turn to look at the sort of reactions that it provoked.

Responses to 'Origin of Species'

The sort of scientific knowledge that would eventually allow Darwin to formulate his theory of evolution had been building up since the seventeenth century when the first links were made between fossils and life forms. To begin with there was no

³³² Ibid., pp. 53-54. Here we can see the first example of the contemporary reworking of the argument from design popular among the critical realist scientist-theologians we look at in our case study. In this reformulation God is identified (one should stress not exhaustively) with the universal natural laws. The result is that evolutionary theory stops being a threat to religious (specifically Christian) narratives of origins and is instead thought of as the *mechanism* through which God enacts the creation.

discernable conflict between this knowledge and the widely held literal belief in the Biblical Creation narratives. However, as time went on, and as more examples of extinct species were found the union between scientific and Biblical narratives started to look more untenable.³³³ To compound this, Lamarck's early nineteenth century version of evolutionism now showed that entirely naturalistic explanations of organic development could be given. However evolution as an anti-religious threat was not yet established because no-one had been able to suggest a convincing engine that could drive the forces of evolutionary change. This was where Darwin's account of evolution was so powerful. He amalgamated extant geological and biological knowledge with Malthus' economic theory to create his vision of change, over time, by natural selection.³³⁴ This is where the true scope of the religious implications of evolutionary theory appeared. The uneasy alliance between science and religion, which had been in place since the time of Galileo, was threatened again, but this time in a way that was to implicitly set the future tone of the relationship. Where scientific and religious discourses are working on the same problems whether they be about our origins or our destiny, and where we approach this intersection from a realist perspective, there will be complications and conflict.³³⁵

The first and most obvious source of conflict was the necessity of uniformitarian geology to Darwin's theory. The vast periods of time required for evolutionary mechanisms to effect their changes were clearly opposed to Biblical readings about

³³³ Ruse notes that the connection between fossils and organisms was initially welcomed by Christians because the discovery of marine fossils on mountain ranges seemed to give credence to the story of the Flood. Ruse, Michael (1982) Darwinism Defended: A Guide to the Evolution Controversies, p. 4. Massachusetts: Addison-Wesley.

³³⁴ We look at Darwin and Evolution in more detail in our sections on Richard Dawkins and Scientific Creationism.

³³⁵ The aim of the Creative Tension Model is to remove the conflict whilst retaining the integrity and intent of each vocabulary and also to facilitate each community in their quest to forge more effective tools.

the age of the world. Secondly Darwin had apparently removed the need for any direct Divine involvement with the creation of species.³³⁶ The implications of these two evidential affronts to Biblical integrity were far reaching. Despite Darwin's theistic (or more accurately deistic) sensibilities these issues were to generate real conflict. Whilst many of the early responses were scientific criticisms, questioning the validity of the theory without explicitly relating it to the religious implications, the climate of the time was such that conflict became inevitable. Though conservatives such as Bishop Wilberforce, who was later to famously debate the issue with T. H. Huxley at the British Association, were opposed to the theory on scientific terms because of problems with its treatment of the fossil record, he was also opposed on religious grounds because of its characterisation of mankind.³³⁷ So, although on the surface, the criticisms were founded upon 'good science' and not upon a fundamentalist reading of the Bible, the subtext was the religious implications of accepting such a theory.

Ruse argues that the evolution controversy should not really be taken to represent a turning point in the debate between science and religion but rather as a continuation of the uneasy *détente* that had existed since the time of Galileo:

We must therefore be careful in thinking of the *Origin* as a "watershed". In the purely scientific sense it clearly was, but from the viewpoint of the science-religion quarrel it was much less of one. Darwin's work certainly seems to have occasioned a general shift toward the view that evolutionism was compatible with

³³⁶ Darwin himself did not feel that this implied that he was doing away with God entirely but rather that it shifted God's influence to the level of natural laws. See ³³⁶ Ruse, Michael (1996) But is it Science? The Philosophical Question in the Creation/Evolution Controversy, pp. 64-65. New York: Prometheus Books.

³³⁷ *Ibid.*, p. 65.

science, and there is no doubt that by offering a naturalistic explanation of organic adaption he made far more plausible the position of scientists like Huxley, who wanted to have no truck with religion at all. However, as we have seen, religious men, even religious Englishmen, had been dealing sympathetically with science long before the *origin*, and in many respects the various attitudes taken towards the science-religion relationship were the same both before and after the *Origin*.³³⁸

However, what the evolution controversy has been successful in promoting is the development of more and more sophisticated approaches to the science-religion relationship. These range from the critical realism of the scientist-theologians to the critical realism that expresses itself in a commitment to Genesis historicity as with the scientific creationists.³³⁹ These two narratives about origins have become a focus for the contemporary debate and it would be disingenuous to claim that evolution has not altered the terrain of the meeting place between science and religion. More than anything else the conflict over evolution demonstrated the dangers in treating the Bible as a representational document or, even worse, as a rudimentary scientific textbook. Both Dawkins and the creation scientists sit on a representationalist continuum and, as this thesis attempts to argue, they are both seriously flawed. The danger begins when we approach vocabularies, whether scientific or religious as if they were representing Reality. Given that we have no way of proscribing what is real or true outside our vocabularies (and the uses to which they are put) this approach is going to generate confusion. The CTM argues that there is no such thing as 'getting it right' with regard to Reality. Reality, in this sense, as something that is already there, does not exist. As we have argued this does not force us into the anti-

³³⁸ Ibid., pp. 66-67.

³³⁹ Philosophically both creationists and Polkinghorne are critical realists: the philosophical framework is the same, the difference is over the interpretation of Genesis 1.

realist position of linguistic idealism or into nihilism but rather it should compel us towards the pragmatic notion that what is real for us are the vocabularies that enable us to cope with and shape our experiences. In this way language helps us not just to deal with specific problems but also to change the way we interpret them and hence to change ourselves. Creative Tension does not force us to make our vocabularies comply with each other but it does allow us to recognise where they are being used for similar intentions. To change a vocabulary as a result of this interaction is not a vulgar compromise or an attempt to acquire the kudos of the more generally accepted picture of Reality but to use other techniques to improve the usefulness of the vocabulary.

In this chapter we are looking at the problems created by the various realist approaches to the science and religion debate. In a brief discussion of Richard Dawkins we will see how representationalism can destroy not just religion but can end up damaging the very science that it seeks to elevate above all other discourses. In an equally brief discussion of Scientific Creationism we will look at the influential, largely American movement that has responded to evolution in an aggressively fundamentalist fashion. Though the latter is an extreme approach³⁴⁰ it is nonetheless very important because it brings into sharp focus the difficulties that can occur when Realism is taken to its logical conclusions. Many of the faults of Dawkins and the Creationists are mitigated in approach of the critical realist Christian scientist theologians yet the same underlying worry – the relationship of a religious text to reality – continues to dominate. The approach, whilst it is presented as a careful and benign response to the issue of conflict will be shown ultimately to be just as

³⁴⁰ It is not extreme in the United States.

damaging as all the realist manoeuvres we have studied. Finally we shall show how the CTM can resolve the conflict surrounding the religious issue of origins and the scientific theory of evolution.

Richard Dawkins

Richard Dawkins, the eminent evolutionary psychologist and holder of the Charles Simonyi Chair of the Public Understanding of Science at Oxford, is one of the best known communicators of contemporary evolutionary science. Aside from his seminal works in the field of Evolutionary Biology, Dawkins is renowned for his evangelical passion for science specifically as a reductionist pursuit. As Dawkins sees it, scientific descriptions are incompatible with, and superior to, religious ways of knowing.

Dawkins' books are characterised by laudably clear and often gripping prose. As well as having a sound descriptive tone, his work is often quite polemical and he has his critics both from outside and within his own discipline. In his influential book, The Selfish Gene, Dawkins builds upon the work of his hero, Charles Darwin, and introduces his own theory that identifies the gene as the unit of selection.

He offers a brilliantly persuasive account of the tyranny of the gene; how it alone determines our actions and how altruistic behaviour is actually a mechanism for gene survival. Although Dawkins' theory is reductive he does give cause for optimism and suggests that our conscious nature may give us an advantage over the rest of nature and enable us to defy the dictates of our genes:

We are built as gene machines and cultured as meme machines, but we have the power to turn against our creators. We alone on earth, can rebel against the tyranny of the selfish replicators.³⁴¹

Dawkins' strength, his passion for science, also turns out to be his downfall. He confuses the different ways in which we use different vocabularies and he elevates the scientific vocabulary above all others. His drive to formulate descriptions that are all couched in scientific terms is inspired by his firm belief in a realist scientific approach and in the descriptive power of his own subject, evolutionary psychology. In Dawkins' world there is no space for religious descriptions nor is there any need for them. All aspects of life can apparently be soundly and fully described using a scientific vocabulary. His LPD are far more to the fore than those of Polkinghorne *et al* and he explicitly and regularly rejects the value of religious language:

The argument from design, an important part of the history of religion, wouldn't be ignored in my religious education classes, needless to say. The children would look at the spellbinding wonders of the living kingdoms and would consider Darwinism alongside the creationist alternatives and make up their own minds. I think the children would have no difficulty in making up their minds the right way if presented with the evidence.³⁴²

³⁴¹ Dawkins, R. *The Selfish Gene*, p. 201. Oxford: OUP.

³⁴² Dawkins, R. (January/February 1997) 'Is Science A Religion?' taken from *The Humanist*, Volume 57, Number 1. This was taken from the Internet, at website: <http://www.infidels.org/org/aha/publications/humanist/dawkins.html>.

Richard Dawkins' central thesis is that life can be exhaustively explained by evolution through natural selection. The elegant simplicity of the theory excludes any need for an outside agent since once the process has begun, it has its own dynamic motivation. His thesis strikes right at the heart of the anthropocentric viewpoint that has traditionally characterised religion. Humans, apparently, are just another chance outcome of millennia of random genetic mutations. A subsidiary part of Dawkins' central thesis is his attempt to naturalize culture and ideas by introducing the concept of 'memes'. Memes operate as a sort of para-evolutionary force, subject to similar laws and patterns of behaviour as their biological counterparts. A particular meme (idea) depends, for its survival, on its adaptability and standing within the larger meme pool. *Ex hypothesi*, memes have no value in themselves except in their ability to propagate and flourish. But a meme's success does not depend upon its contribution to gene survival, so this explains the existence of deleterious memes.³⁴³ However, this attempt to reduce human culture and modes of expression fails because it ignores the question of 'value' and the involvement of conscious minds. There are usually reasons for the survival and spread of ideas in human cultures. Ideas are assessed for their value and bad ideas are rejected, although it is possible for some unpopular ideas to live on. Most of the things that Dawkins would categorise as memes, such as pieces of music or works of literature, are not means to an end (self-propagation) but stand as ends in themselves, as expressions of our personhood.³⁴⁴ Between the meme and its ability to flourish stands a very important medium: a

³⁴³ The idea that there are parallels between the biological world and the world of ideas is not a novel one. Other writers have been beguiled by the great explanatory potential of Evolutionary Theory. The French Biologist Jacques Monod made the analogy between genetic evolution and cultural evolution as early as 1970. See, Monod, Jacques (1972) *Chance and Necessity* London: Collins.

³⁴⁴ Keith Ward makes a similar point: "If you ask, 'What was your purpose, or end, in listening to that music?' a perfectly satisfactory answer is to say, 'My end was to appreciate its beauty, for its intrinsic value'", in Ward, Keith *God, Chance and Necessity*, p. 144. Oxford: One World.

conscious being that exercises discretion. Here, Dawkins tellingly reveals what little value he places on our capacities as intermediaries in the transmission or creation of memes:

Just as we have found it convenient to think of genes as active agents, working purposefully for their own survival, perhaps it might be convenient to think of memes in the same way. In neither case must we get mystical about it. In both cases the idea of purpose is only a metaphor, but we have already seen what a fruitful metaphor it is in the case of genes.³⁴⁵

The LPD reveal themselves again: anything that cannot be explained in scientific terms is less important, whether it be religious discourse or other 'romantic' or 'emotive' discourses. Non-scientific human vocabularies, and their ability to cope with or capture different aspects of human experience, are rejected because they do not provide the Objectivity which Dawkins believes, is provided by science.

However, this position is ultimately untenable because it is self-defeating. Perhaps the only version of religion that Dawkins could accept would be the kind that is presented as being susceptible to scientific investigation and scientific proofs. An attempt has been made to present religious language as a rudimentary scientific hypothesis, subject to the rules of the scientific language game. It was made, paradoxically, by those that Dawkins would probably consider his nemesis, the Scientific Creationists. We will introduce their approach to the relationship between the discourses:

³⁴⁵ Dawkins, R. (1989) The Selfish Gene, p. 196. Oxford: OUP.

Scientific Creationism

Modern creationism has its origins in the late Victorian backlash against Darwinism. Although many British scientists and theologians accepted the theory of evolution some of their American counterparts were less easily persuaded. Some were worried that if any part of the Bible were to be shown to be inaccurate then its veracity as a whole could in turn be questioned. So, scientific creationism can be seen as a form of radical conservatism which encompasses a defence of the Bible as the literal Word and an attack on the (perceived) threat of evolutionary theory.

By 1922, creationism became a political issue with pressure being brought upon American state legislatures to ban the teaching of evolution in schools. Rather than stress the positive scientific authenticity of creationism, arguments at this time focused on the negative, stressing the 'unscientific' or 'unproven' status of the theory of evolution. This turns out to be an important, if not the most important aspect of the debate between evolutionists and creationists - the disagreement over the nature of science and of course, ultimately of religion.

By the 1960s, creationism enjoyed a revival, inspired by the fundamentalist movement. In 1963, the Creation Research Society was founded to encourage the links between evangelism and science and to put pressure on the government to give creationism an equal footing with evolution in the school curriculum.³⁴⁶ This became crystallised in the notorious Act 590 which was introduced in Arkansas in 1981. The Act's rubric sets out the demands:

³⁴⁶ Montagu, Ashley (Editor) (1984) Science And Creationism, pp. 4-5. New York: OUP.

‘An act to require balanced treatment of creation-science and evolution-science in public schools; to protect academic freedom by providing student choice; to ensure freedom of religious exercise; to guarantee freedom of belief and speech; to prevent establishment of religion; to prohibit religious instruction concerning origins; to bar discrimination on the basis of creationist or evolutionist belief...’³⁴⁷

The American constitution, which demands the separation of religion and government, dictated the apparent contradictory style of the Act. If the creationists were to admit that their theory was more religious belief than scientific hypothesis then it would have no chance of getting on the statute books. It was, perhaps, this ambiguity in the wording of the document which allowed for the initial passage of the Act into law. Only a year later, though, in 1982, the Act collapsed under the burden of its contradictions and a permanent injunction was taken out against its enforcement.³⁴⁸

What is curious about the creationists’ crusade is the importance they place on science. It is a symptom of the current zeitgeist that science is held up, even by the religious, as the ultimate benchmark of truth. We can clearly see the LPD at work here. If science truly enables us to uncover the secrets of nature as Creationists (realists) appear to believe, then it must be in accord with the picture of nature described in the Bible. The problem with this approach is that, if creationism can be shown to be a false theory or not even a scientific theory at all, then the status of the

³⁴⁷ reproduced in Ruse, Michael (Editor) (1988) But is it Science? The Philosophical Question in the Creation/Evolution Controversy, p. 283. New York: Prometheus.

³⁴⁸ *Ibid.*, p. 307.

Bible as an authoritative scientific textbook is in doubt. However, the Creationists' concern that the Bible should conform to science can perhaps better be understood within the context of their theism. As realist theists, Creationists see God as creator of the universe and of all the things in it. Science, specifically evolutionary science claims to have uncovered the mechanisms that drive and create phenomena - 'natural' mechanisms that require no outside influence and arguably no need for God. Where once science and religion offered a *combined* answer to cosmological questions, they now, *ex hypothesi*, offer rival answers to the question of origins. It is within this framework of conflict and contradiction that Creationism takes root.

The creationist condemnation of evolution as a naturalistic or atheistic doctrine is partly admissible but is ultimately misleading and unfair. Any scientific explanation could be accused of being naturalistic since it is the job of science to promote narratives in terms of natural processes.³⁴⁹ To accuse science of atheism is unfair because this assumes that scientists are always attempting to offer the same sorts of descriptions as religion. Whilst there is clearly an influential relationship between science and religion and creationism is the *reductio ad absurdum* of this, the CTM tells us that even though there are overlaps in scientific and religious descriptions this is not a reason for one vocabulary to be subsumed by another.

Creationism has emerged from a very specific model of Biblical interpretation, fundamentalism. Modern fundamentalism is a highly conservative reading of Biblical literature and, as such, is generally referred to pejoratively. As a sociological phenomenon, fundamentalism is commonly characterised as a response to modernity,

³⁴⁹ See Langdon Gilkey's helpful list of requirements for scientific procedure in, Gilkey, Langdon, 'The Creationist Issue: A Theologian's View', in Lash, Nicholas and Tracy, David, (Editors) (1983) *Cosmology and Theology*, p. 60. Edinburgh: T & T Clark Ltd.

as a retreat from the unstable secular world into a world of certainty. As a theological model, James Barr has stated its principle features thus:

- (a) a very strong emphasis on the inerrancy of the Bible, the absence from it of any sort of error;
- (b) a strong hostility to modern theology and to the methods, results and implications of modern critical study of the Bible;
- (c) an assurance that those who do not share their religious viewpoint are not really 'true Christians' at all.³⁵⁰

If we look at Barr's first criterion of fundamentalism, the idea of Biblical inerrancy, this seems particularly relevant to Creationism. The Bible, specifically the Genesis account of creation is presented as a true historical document of events which are vindicated by science. The Genesis account was written by 'actual eyewitnesses'³⁵¹ of the events described. It logically follows that there will be material evidence to support this. However, the authors of the creation stories in Genesis were clearly not as sophisticated scientifically as we are today. As Barr observes, their writing was shaped by inherited legends, experience of the world and attempts to understand it, and prevailing theological problems of the day.³⁵² It is important to try and understand the mindset of these Biblical authors since it was their concerns and knowledge that shaped the creation stories.

³⁵⁰ Barr, James (1984) *Fundamentalism*, p. 1. London: SCM.

³⁵¹ Morris, H. M. (1996) *The Genesis Record: A Scientific and Devotional Commentary on the Book of Beginnings*, p. 30. Grand Rapids: Baker Books.

³⁵² Barr, James (1984) *Escaping From Fundamentalism*, pp. 132-135. London: SCM.

Or, to put it another way, supposing - quite theoretically - that it had been suggested to the writers of the first chapters of Genesis that in fact the various species of animals had not always been so but that one species had descended from another, they might have sympathised or they might not; if they had sympathised they might have needed to modify what they had written but there is no reason to suppose that they would have rejected the suggestion on the grounds that it was contradictory to divine revelation.³⁵³

The often barely submerged assumption which drives the creationist scheme is that science is the sole resource of truth. This is an acknowledgment of the status of scientists as latter day priests who can provide channels to objectivity or the 'real world'. Ironically, given all the creationist taunts about evolution being naturalistic or atheistic, creationism seems to be driven by materialist principles. Hidden within the creationist methodology is the idea that something can only be judged 'true' if it can be demonstrated scientifically, an idea that is not only unnecessary for religious descriptions but also quite clearly misguided. The specious LPD could not be more in evidence. Since creationists have decided that the Bible can be proven scientifically, it follows that it can also be refuted using the same methods.

Creationism, as a religious methodology, is a poor model. As we have seen, it makes assumptions about the nature of the Bible and about the intentions of the Biblical authors that cannot be justified. It may be the case that the Bible is inerrant but this does not necessarily mean that this can be proven scientifically or if it is even amenable to scientific investigation. If the Bible is inerrant in its moral or spiritual

³⁵³ Ibid., p. 135.

teaching then this is surely something that cannot be demonstrated through a scientific methodology. Ultimately, the theological damage done by creationism is a much more extreme form of that attributed to Polkinghorne *et al.* The desire to reconcile theological terms with their scientific analogues spills over from helpful metaphorical insights to unhelpful literal redcriptions. The motivation in both cases, it seems, is to render theological and religious discourse more meaningful by making it 'more scientific'. This is another outcome of the LPD. Aside from the theological damage done by creationism, it also fails to facilitate the relationship between scientific and religious vocabularies because rather than promoting creative interaction it instead inclines towards vocabulary reductionism. We now return to the alternative approach offered by the Creative Tension Model.

Creative Tension and Creation

Gordon Wenham, the conservative theologian, writes:

The Bible-versus-science debate has, most regrettably, sidetracked readers of Gen 1. Instead of reading the chapter as a triumphant affirmation of the power and wisdom of God and the wonder of his creation, we have been too often bogged down in attempting to squeeze Scripture into the mould of the latest scientific hypothesis or distorting scientific facts to fit a particular interpretation. When *allowed to speak for itself*, Gen 1 looks beyond such minutiae. Its proclamation of the God of grace and power who undergirds the world and gives it purpose justifies the scientific approach to nature. Gen 1 by further affirming the unique status of man, his place in the divine program, and God's care for him, gives a hope to mankind that atheistic philosophies can never legitimately supply.³⁵⁴ (my italics)

As we might expect from a conservative theologian, Wenham concludes by making links between theism, realism and truth. More surprising, is if we exclude that link, it is almost an affirmation of the Creative Tension Model (CTM). Realists are concerned with representing Reality and with discovering external, objective grounds for legitimating representations. If, as Rorty argues, science has become the new theology, the new medium through which we can legitimately claim that we are accessing this Reality, then other discourses must either adapt to make themselves acceptable to science or even become more like science if they are to maintain

³⁵⁴ Wenham, Gordon J (1987) Word Biblical Commentary: Genesis 1-15, p. 40. Waco: Word Books.

legitimacy.³⁵⁵ The CTM asserts that by approaching science, religion and indeed all vocabularies from an anti-representationalist, pragmatic viewpoint we can resolve the sort of conflicts and confusions engendered by representationalism and realism. An exemplar of how this works can be provided by the Biblical and the scientific stories of creation.

We have demonstrated that it is constructive to see scientific and religious vocabularies as *distinct* and *autonomous* discourses with intents that are different but which occasionally overlap. It is important that vocabularies are able to maintain their integrity as tools that have been developed to cope with specific problems or aspects of experience. In this way we argue that it is wrong to conflate one vocabulary to another simply because we think that it gives us a more accurate picture of Reality. In the CTM there is no single *Truth* but there are multiple relative *truths* or vocabularies that enjoy success in one respect or another. This idea of plurality is essential in order for us to accept that the success of one vocabulary does not make it truer than, or negate, a rival vocabulary. Certainly it is true that vocabularies can become obsolete and wither or be replaced by more powerful and far-reaching tools.³⁵⁶ Largely, though, once we have removed the idea of an objective referent we must instead rely upon inter-subjective agreement about the utility of a vocabulary. What this does is to shift the emphasis away from the idea of 'evidence' or reference to facts and onto *intent* and *utility*. This refocusing gives vocabularies space to

³⁵⁵ Rorty often uses this theological analogy in contrasting objectivity against solidarity: '...One result of this way of thinking is that any academic discipline which wants a place at the trough, but is unable to offer the predictions and the technology provided by the natural sciences, must either pretend to imitate science or find some way of obtaining "cognitive status" without the necessity of discovering facts.' Rorty, Richard (1994) Objectivity, Relativism and Truth: Philosophical Papers Volume 1, p.35. Cambridge: Cambridge University Press.

³⁵⁶ A good example of this is the medieval belief that certain mental states were the result of demonic possession. Nowadays most western societies would prefer to use the vocabulary of science and talk of chemical imbalances as their way of coping with these sorts of phenomena.

breathe and to grow and releases them from the constricting requirements to conform to other vocabularies.

We have examined in some detail the narratives of origins as provided by the biological sciences. We have seen, notably in our discussions of Richard Dawkins and the scientific creationists, how, what initially appeared to be an account that enabled us to talk about and organise a wide range of phenomena, became a 'more accurate' picture of Reality than that portrayed in the Bible. Rather than keeping the emphasis on the utility of the theory of evolution as a tool for explaining or predicting things, those involved chose to shift its intent to that of a tool for explaining the nature of humanity and of ultimate Reality. This reductive intention goes far beyond what looked like the rather modest quest for the theory that will unite all branches of science. We have traced how this slide from one intention to another is possible; the desire to discover a unified Reality is something that is built into the Realist position. Where there is realism there is the danger that one vocabulary will be subsumed by another.³⁵⁷

The Biblical story of creation cannot be subsumed by an evolutionary, biological story because, although both narratives deal with origins, their intent is different. Creation stories are important features of many world religions and they have so been for generations. Their role can be to reveal something of the character of God or gods and help people to orient themselves towards an appropriate relationship with their

³⁵⁷ Clearly realists do not have to believe in a unified reality or a Brahman-type absolute idealist conception of reality. What they must accept, though, is that our descriptions of Reality do not conflict with each other. They cannot say that God created the world and its organisms in six days whilst also holding that evolution is true. Again, it is not necessary to be Biblical literalists to be realist but the point remains that realism promotes a narrowing of possible truths and hence is by its nature reductionist.

deity. Their importance is reflected in their ubiquity in the world both geographically and historically:

The work of the theologians, the students of religion, and the ethnologists from the 17th century right up to the present has demonstrated that stories of the creation of the world and of mankind are spread over the whole earth and throughout the whole of humanity; they reach from the oldest, primitive cultures to the high cultures and beyond....Moreover what they say about the creator and creation retains its own vital import even when all other statements about God fade or disappear. This is most striking in the western Enlightenment where reflection on creator and creation outlasted all other theological themes.³⁵⁸

Whilst the broad scope of the various creation myths counts against overarching interpretations of their various meanings we can identify some general intentions that seem to have ensured the longevity of these myths. Westermann, in his seminal commentary on Genesis 1-11, proposes, after Pettazzoni, that myths about the creation of humanity are valuable because in establishing this event they ground humanity and secure its continuity:

We see that the primary function of the myth is to maintain the stability of the present state; it is this that is common to the whole vast circle of stories about the creation or origin of the world and of human beings.³⁵⁹

³⁵⁸ Westermann, Claus (1994) Genesis 1-11: A Continental Commentary, p. 19. Minneapolis: Fortress Press.

³⁵⁹ *Ibid.*, p. 21. Creation myths and myths of origin can provide the religious with a grounding and a sense of stability in themselves and within the universe.

So it is quite possible that the creation stories initially sprung from a need to cope with certain existential needs and to instil a sense of security into an uncertain environment. We must not lose sight of this initial intention because as soon as we start to drift into sophisticated contemporary interpretations of function and meaning we begin to generate confusion and conflict. The later creation myths as characterised by those told in the Bible introduced the idea of a God with whom we can have a personal relationship. This represents an intention that goes beyond satisfying basic existential needs such as the need for an ordered environment and introduces the possibility of engaging with, and having our lives shaped by, the creator:

At the beginning a personal being acts; the beginning of the world and of humanity is as it were a “deed”; consequently there is made possible a personal relationship to this event and to the one who effected it, which is expressed in an address of praise to the creator. The praise of the creator becomes possible only with the transition from origin to creation.³⁶⁰

So in creating humanity God establishes a point of contact with us and enables the possibility of personal relationships. Westermann, with Barth, reads Genesis 1:26 as affirming that in making man ‘in his own image’ God blessed humanity with this ability to become a correspondent in a relationship.³⁶¹ It is worth exploring this theme of a relationship because it is so central to the Christian notion of a personal God.

³⁶⁰ Ibid., p. 25.

³⁶¹ See Ibid., p. 151. Wenham argues that Westermann’s analysis only holds for this particular affirmation of man being made in God’s image (Genesis 1:26). Here, the description is of a process, we are created such that we are in a special responsive relationship with God not so that we resemble God. Passages such as Exodus 25:40 suggest that we are rather the latter; we are the product of the creation rather than the process. See Wenham, Gordon J (1987) Word Biblical Commentary: Genesis 1-15, p. 31. Waco: Word Books.

The CTM is an anti-representationalist approach that removes the need to make our vocabularies conform to reality. The implications of such an approach are not that we doubt or deny the existence of the external world but rather that we do not need to appeal to some objective referent to legitimate our vocabularies. The assumption that we are trying to overturn is that some sort of representationalism is needed in order for the Christian religious discourse to work. So in order for those using the religious vocabulary to enter into a relationship with God, there must be a God 'out there' to satisfy the preconditions for relationships. If we deny this then we are anti-realists and the idea of a 'relationship with God' takes on a metaphorical meaning and describes an inner dialogue between ourselves and our religious motivations. Religion is reduced to a sort of privatised, self-help practice with no reference point other than an internally held model of demythologised spiritual growth. As we see in our section on critical realist theologian, Ian Markham, this position seems wrong because it is antithetical to the intentions of those involved in developing religious tradition and to the intentions of those who are involved in its contemporary practice.³⁶² However it is not necessary to resort to these polar extremities of realism or anti-realism if we abandon, as Rorty suggests, the entire representationalist picture of language. To do this is to reject not just realism but the other extreme of the philosophical pendulum, anti-realism. Both are concerned with representationalism in some regard and, by association, both use the same damaging model for conceiving our linguistic tools.

³⁶² Markham takes issue with both Don Cupitt and D. Z. Phillips and their neo-Wittgensteinian approach to religious language. His main problem with Cupitt is his reductive naturalism: 'In removing God from reality, he leaves reality as cold, impersonal, and ultimately reducible to bundles of atoms...'. Markham, Ian (1998) Truth and the Reality of God: An Essay in Natural Theology, p. 17. Markham is committed to the idea that only a realist approach can do justice to the religious world-view because it involves claims about reality. If you remove the reality then you remove the soul from religious discourse. See, Phillips, D. Z. (1976) Religion Without Explanation Oxford: Blackwell.

We have seen that the sceptical problem of other minds is not an issue for the anti-representationalism of the CTM because we do not have to climb out of ourselves to confirm whether the vocabulary we are using is accurate. The important thing to consider is whether it is *effective*. That we are able to communicate and engage with other people is all the legitimation that we require. The extra 'pat on the back' which Rorty so often talks about when referring to the process of rewarding certain vocabularies or sub-vocabularies with the distinction of 'Truth' does not figure in the CTM: What is true is not 'anything' as realists might suppose but what communities value above all else.³⁶³ If we approach the Genesis idea of humanity being made in the image of God, in this way, we find that we can accept and use this narrative without any contradiction or subversion of the intent, *without reverting to representationalism*. In order to establish a relationship with anyone we do not need to first establish that they are 'Really' there and that our talk about them accurately and exhaustively describes them. If we portray the relationship between language and the world as causal rather than representational then the realist sceptical problem and the anti-realist or linguistic idealist problem cannot apply because there is no gap between ourselves, our vocabularies and the 'Reality' to be represented. With CTM the question of whether we can prove the existence of God or demonstrate the reality of God becomes as superfluous as the sceptical problem because they are both beholden to representationalism. The CTM, in liberating religious narratives from representationalism, also enables them to flourish in their relations with other narratives. The only check on this creative interaction is mutual respect of the

³⁶³ Rorty feels that we could be more confident as communities and should not be tempted to look for external, Objective approval because it cannot be found: 'To encourage self-reliance, in this sense, is to encourage the willingness to turn one's back both on the past and on the attempt of 'the classical philosophy of Europe' to ground the past in the eternal.' Rorty, Richard (1999) Philosophy and Social Hope, p. 34. London: Penguin.

intentions behind the participating vocabularies. We have shown extensively how this can happen when vocabularies are working from within a representational framework. This difficulty is most pronounced when the scientific and religious narratives seem to be evincing the same intent and when a resolution is sought through realist metaphysics. We have considered the responses from a spectrum of realist approaches to the concepts of human creation and earthly origins as explored through science and religion. The source of the conflict is an initial confusion that is inspired by representationalism and characterised by Wenham thus:

It has been unfortunate that one device which our narrative uses to express the coherence and purposiveness of the creator's work, namely, the distribution of the various creative acts to six days, has been seized on and interpreted over-literally, with the result that science and Scripture have been pitted against each other instead of being seen as complementary. Properly understood, Genesis justifies the scientific experience of unity and order in nature. The six-day schema is but one of several means employed in this chapter to stress the system and order that has been built into creation.³⁶⁴

There are two issues here: Firstly, the intents behind scientific and Biblical narratives of origins and secondly, whether there is something in the scientific narrative of biological evolution that can be used to make the Biblical narrative more effective and persuasive. The theory of biological evolution, as we have seen is a particular application of science designed to deal with a specific taxonomy of problems concerned with natural processes. The Biblical narrative helps to identify how the

³⁶⁴ Wenham, Gordon J (1987) Word Biblical Commentary: Genesis 1-15, p. 39. Waco: Word Books.

religious are to orient themselves to God but in doing so it portrays a story of origins that appears, at a literal level to be, a description in terms of natural processes. The creation scientists and the scientism represented by Richard Dawkins take this to be evidence of mortal conflict between scientific and religious narratives, whereas the critical realist scientist-theologians see it as an opportunity to re-assert the initial intent behind the Genesis narrative as a description of a real occurrence (God's initial act of creation and ongoing activity in the world) in metaphorical terms. In allowing the days of creation to be interpreted in this way we can see in them instead a different meaning. We do not think of them as six, twenty-four hour units but as the elements of a parable that are designed to demonstrate, as Westermann puts it, that '...time, properly ordered and directed in carefully regulated periods towards its God-given goal, began with creation.'³⁶⁵ However, whilst the CTM agrees that this sort of interaction between scientific and religious narratives (where the intent of both vocabularies seems to merge) should prompt a reappraisal of the ways in which we use our vocabularies, it departs from the critical realists in its rejection of any projects that are concerned with trying to '...squeeze Scripture into the mould of the latest scientific hypothesis or distorting scientific facts to fit a particular interpretation.'³⁶⁶ The lesson to be learned instead always brings us back to the pragmatic considerations: *What it is we want our vocabularies to do for us, how we can make them more effective and how we can make them more persuasive?*

³⁶⁵ Westermann, Claus (1994) Genesis 1-11: A Continental Commentary, p. 90. Minneapolis: Fortress Press.

³⁶⁶ Wenham, Gordon J (1987) Word Biblical Commentary: Genesis 1-15, p. 40. Waco: Word Books. We see the dangers of pursuing this sort of 'God of the Gaps' approach in our section on the critical realist scientist theologians, specifically dealing with John Polkinghorne's speculative, physics-inspired model of providential action. It is certainly useful for religious discourse to use insights, where relevant, garnered from other vocabularies. It is less helpful to attempt to make religious language, something that is intended to cope with specific features and to be used in a specific way, conform to the often wildly divergent intentions of scientific language. The implication here, which we have drawn attention to throughout the thesis, is that science is a more valid representation of reality and in order for religion to retain its realist soul it must make itself more like science.

We are now in a better position to start to think about the second issue raised in this example of scientific and religious interaction; whether there can be an inspirational or creative outcome from this activity. Under the CTM interpretation the conflict between scientific and religious narratives of origins exists because although both are stories about human origins, they do not share precisely the same *intent*. Creative Tension does not resolve the conflict by arguing for a complete separation between the two discourses or by saying that they do not impinge upon each other and are concerned with different levels of the same Reality. Doing this would still involve accepting some sort of representationalist framework whether it be anti-realism or dual-aspect realism. Instead the CTM acknowledges that different discourses can sometimes overlap and, by a process of unforced agreement, it will be decided if one is more useful than another in meeting needs. The Genesis narrative about human origins is ineffective as an account of the development of humanity in terms of natural processes. In this respect, evolutionary theory is far more useful because it enables us to control and explain far more. It is unhelpful, therefore, to continue to think of the Genesis account as something that is to be used for coping with naturalistic explanations or problems. This is not to say that critical realists, such as John Polkinghorne, treat the Bible as a sort of scientific textbook but rather that their representationalist agenda compels them towards attempts to translate religious narratives and theological insights into corresponding scientific facts.³⁶⁷

Creative Tension attempts to maintain the integrity of the religious narrative whilst still acknowledging that it can only gain from the insights of the scientific narrative.

³⁶⁷ For more on this, see Chapter One.

The result is not that the religious narrative becomes more scientific, or takes on the superficial trappings of a scientific narrative in order to legitimate itself. What is at stake here is not the limited resource of 'reality' but rather the unlimited possibility of different human discourses. True conversation exists between those who have not already made up their minds. It is only through the pragmatic approach of the CTM that this openness between discourses can be maintained because realism is a call to 'closure' on what we consider to be 'reality'. Rorty's complaint that religion is a 'conversation-stopper' cannot apply here in the same way that we cannot call science a 'conversation-stopper' because our Creative Tension Model says that no discourse can make claims to objective truth.³⁶⁸

The Implications of the Creative Tension Model for Religion

Pragmatist theists, however, do have to get along without personal immortality, providential intervention, the efficacy of the sacraments, the Virgin Birth, the Risen Christ, the Covenant with Abraham, the authority of the Koran, and a lot of other things which many theists are loath to do without.³⁶⁹

Rorty identifies the demythologising movement amongst liberal theologians as an attempt to avoid the clash between science and religion. In affirming religion as something that is not affected by scientific narratives, which describe humanity in terms of natural processes, but is instead concerned with different sorts of intentions

³⁶⁸ Rorty, Richard (1999) Philosophy and Social Hope, pp. 168-174. London: Penguin. Ironically, Rorty's antipathy towards religion is based upon a representationalist model of religion. If we remove the representationalist element from religion then Rorty has no grounds for rejecting it, other than specious arguments for the wholesale rejection of 'tyrannical' traditions.

³⁶⁹ Rorty, Richard (1999) Philosophy and Social Hope, p. 156. London: Penguin.

and different sorts of relationships, the possibility of conflict is removed. However, in doing this, the criticism runs, the realist soul of religion, which many people would recognise as the most important aspect of their belief, is removed. If religious language is not representational then it is unable to carry the full import of the meaning ascribed to it by traditionally realist believers. Moreover, this sort of realist theism has implications far beyond the confines of the religious vocabulary. The idea of God as grounds for all reality and our ability to discover and interpret this reality was explored in our appraisal of Ian Markham's Truth and the Reality of God. It might be helpful here to clarify the distinction between instrumentalism and pragmatism.

In his essay on William James' approach to religious belief, 'Religious Faith, Intellectual Responsibility and Romance', Rorty distinguishes pragmatists from instrumentalists as people who do not think that quarks are mere '...heuristic fictions'³⁷⁰ but who instead think that '...quarks are as real as tables, but that quark talk and table talk need not get in each other's way, since they need not compete for the role of What is There Anyway, apart from human needs and interests.'³⁷¹ If we extrapolate this to what pragmatic theists believe, we find that they do not see God as a posit; God is as real as quarks and tables but narratives about our relationship with God do not necessarily conflict with narratives of our relationship with other things. This insight informs our previous discussion of the idea of a relationship between humanity and God. In the same way that we do not, from a pragmatic position, question the idea that human beings can have relationships with other human beings (this is the acknowledgement that truth and reality is rooted in language and

³⁷⁰ Ibid., p. 156.

³⁷¹ Ibid., p. 156.

communities rather than in objective reality) we do not need to reject the possibility of people enjoying a relationship with God. God, here, need not be reduced, in an instrumentalist or anti-realist manner, to the level of 'mere posit' or identified with the pinnacle of human morality or achievement. Where Creative Tension diverges from the pragmatism of Rorty is in its rejection of this reductive urge which locates the appeal of pragmatic models of faith to their '....faith in the future possibilities of moral humans, a faith which is hard to distinguish from love for, and hope for, the human community.'³⁷² We do not need to reduce the religious narrative to a sort of narcissistic, reflexive discourse and we do not need to go to the other extreme of invoking representationalism. In raising the issue of the literal truth-value of theological concepts like personal resurrection and the Virgin Birth, Rorty has confused the real issue about religion and the Christian narrative with representationalist priorities. We know how to use language in a symbolic fashion and we also know that to label something symbolic is not to render it any less important. Symbolic language enables us to cope with problems that are at the very perimeter of human experience. There may be disagreement about how exactly we are to use it and what ends we hope to achieve in its application but we can agree, as Rorty seems to accept, that there is a need for vocabularies for coping with the problem of human destiny. The symbolism of Genesis 1, in this respect, reflects that need and despite being symbolic, is no less real than our talk of tables and quarks. Clearly this does not mean 'real' in a representationalist sense but rather in a pragmatic sense. A helpful analogy might be the distinction often drawn in everyday

³⁷² Ibid., p. 160. Rorty calls this overlap of faith, hope and love 'romance' and identifies it with the human urge to transcend parochial justifications for truth. In the same way that people once looked to supernatural or religiously themed destinies they can now call upon the sort of hopeful futures represented by scientific progress. The important thing is that there can be a plurality of hopes and a plurality of vocabularies that enable us to experience this property of 'romance'.

language between something that is 'only in the mind' and something that has a somatic or scientifically demonstrable origin. The positivistic agenda behind this desire to root our experiences in something that can be demonstrated scientific is the same urge that drives representationalism generally. Our legitimation for what we are experiencing only 'in the mind' is our ability to communicate it to others. In this sense we can learn how to use religious language without finding it necessary to provide objective legitimacy.

Creative Tension should then not be seen as a negative model which is somehow preventing us from accurately representing what people really mean when they use vocabularies. Instead it should be seen as a liberating model that enables us to hold onto several vocabularies which, under a realist approach, would seem to be incompatible. It does not, however, merely separate out these discourses leaving them with nothing to say to each other. It recognises that where intents can be different they can also, in certain circumstances, be conjoined. This is not to be seen as a threat but as an opportunity for mutual learning. If we think of vocabularies as tools then we should also be aware that language tools, like their physical counterparts, can be improved upon and can be influenced by other approaches to the problems for which they were designed. One of the essential aspects of creativity and originality is an ability to forge new ideas and new ways of doing things out of existing ideas. In order for this to happen there must be an initial receptivity to new ideas and new ways of coping. The conversation can only progress if one's mind has not already been decided.

Conclusion

The interface between science and religion remains a critical arena for the religious understanding of the modern world. For many, the whole problem has been resolved by the compelling approach of the critical realist scientist theologians. The main argument of this thesis has been to demonstrate is that this is not the case. It has been our intention:

(1) To show that critical realism, the fashionable, dominant approach to the relationship between science and religion is philosophically flawed and leads to some theological damage. This is explored through an examination of its most influential and representative proponents. These were the scientist theologian, John Polkinghorne, the theologian, Ian Markham and the philosopher, Michael Devitt. Serious problems were found with critical realism both as a philosophical approach and also as a way of portraying the relationship between scientific and religious discourses. This, in turn, introduced the concept of 'theological damage' which describes the elevation of the scientific discourse at the expense of theological vocabularies.

(2) To identify the Logical Positivist 'dispositions' (LPD) within the critical realist approach and to show how it leads to the problem identified in (1) above. The LPD is revealed as a hidden component in the thinking behind critical realist approaches to science and religion.

(3) To explore other significant approaches to the issue (Rescher, *et al*).

Alternative ways of approaching the problem were explored and were found to be similarly inadequate.

(4) To introduce Rorty and pragmatism as a possible way of resolving conflict and promoting a more fruitful relationship between the discourses. The resulting model and positive thesis argues for a modified version of Rortian pragmatism that acknowledges the validity of both scientific and theological discourses as ways of exploring the diversity of human experience.

The resulting model, Creative Tension (CTM), is proposed as a fruitful response to the difficulties outlined above. Its major tenets are re-stated thus:

(1) Discourses are not representational in character.

Now, of course, there are moments when language operates in a representational way; however, in general, following Rorty, it is unhelpful to think of discourses as representational. It misunderstands the task of a discourse: It is intended to help us enrich our understanding of life. So the first component of CTM is to think of discourses as anti-representational.

(2) Religious and scientific discourses should be treated contextually: the meaning of both discourses is rooted in their *usage* rather than in their ability to represent reality.

It is not the task of discourses to uncover the true nature of reality but rather to help uncover and enrich different aspects of human activity. It is therefore

appropriate to focus on the aspect of experience and the success of a discourse in enriching that experience rather than on its ability to disclose 'reality'.

(3) Religious and scientific discourses can coexist. Reduction of one to the other is strictly forbidden unless it is locally useful to do so.

Given that the two discourses are concerned with articulating different aspects of experience it is wrong to allow one to be consumed by the other even if their concerns might occasionally overlap. Remember, we are not concerned with representing Reality but with allowing different human concerns to be expressed and to flourish. Attempts to reduce one discourse to another are characteristic of realist approaches which we have found to be problematic.

(4) Religious and scientific discourses can capture aspects of the richness of human experience.

Human discourses have developed as responses to problems or as attempts to crystallize the sort of experiences that are common to humanity. This is not to claim that they reveal some eternal, objective truths about the human condition but rather to acknowledge that they have emerged and survived because they are successful in some capacity. In this way science and religion are equally valid attempts to explore and reveal aspects of the richness of human experience.

The Creative Tension Model is considered a more helpful approach because:

- (1) It acknowledges the importance of *context* and *intent* in vocabularies, an insight drawn from Rorty's conception of vocabularies as tools.
- (2) It recognises that occasionally, vocabularies can share the same desire/need to cope with a similar aspect of experience.

- (3) Following from (2), this recognition of common intent should not lead to a reduction of one vocabulary to another (this would be to exhibit the same LPD that underpins critical realism and leads to the victory of the scientific vocabulary over the religious vocabulary). It would also be wrong because it would remove an instance of intent from the wider context of a vocabulary and therefore contradict (1).
- (4) The resulting relationship allows each vocabulary to retain its integrity but also allows for creative interaction.

It is my hope that a pragmatic understanding of the relationship will free up the discourses to be more authentic and able to relate more effectively to human experience.

Naturally with all projects of this scale, there are potential objections to the argument. The contentious areas of my argument are these: First, the claim that LPD are latent in a 'critical realist' approach to these questions; second, the claim that a version of pragmatism overcomes the difficulties inherent in a critical realist approach and is in itself sufficient as a way forward. The possible difficulty with the first claim is that critical realists would resent the implication that logical positivism, with all its disparagement of religion is, nevertheless, underpinning their analysis. To counter this objection it is important to be clear precisely what I am claiming. One aspect of logical positivism that I am stressing is that it tended to treat the 'scientific' narrative as primary. For Ayer and others, it was so primary that the religious narrative was 'meaningless'. This, obviously, is not the

case for Polkinghorne *et al*, but it is true that for Polkinghorne one important aspect of his work is to demonstrate how religious narratives make sense scientifically. When he does this, I argue, he is illustrating a 'disposition' (note the term, it is not claiming that Polkinghorne is identical with logical positivism) towards logical positivism. This disposition can be seen in the manner by which religious meaning has to serve a scientific interpretation.

On the objection to my thesis that pragmatism is insufficient, the following is important to note. The pragmatic model provides a framework for thinking about texts and their interpretation. Although it may sound less exciting than the quest to discover the 'way things really are' (see Devitt, etc.), it is nevertheless a framework which liberates and lets the rich and varied discourses of our lives have their own autonomy. Given my argument that the quest for a 'description of reality' is futile, a pragmatic model becomes inevitable. I concede that to demonstrate the true richness of this approach we would need to include further 'case studies' beyond creation and evolution. But this would require another thesis all of its own.

To conclude, we live in a world where religion and science are perceived, by many, to be at war. To go down the route of critical realism, we actually allow science to triumph over religion. My quest in this thesis is to find an alternative that allows the two worlds to live together.

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