Mind, Body, and the Philosophical Theology of Donald M. MacKay

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PhD—The University of Edinburgh—2004

Acknowledgements

Let there be no doubt that the greatest debt of gratitude I owe is to my Lord, Jesus Christ, who lived the sinless life I should have lived and died the horrible death I deserved to die. It is he who has given me hope, and with that hope comes freedom—not only freedom from the wages of sin, but also freedom to face my existential situation honestly. Without such freedom, the most noble of my attempts at wisdom will amount to nothing but defensiveness. God has made me free by making me his servant, a fallen yet redeemed philosopher who recognises that his every act of obedience is wisdom and who is profoundly ashamed his all too many acts of foolish rebellion. To the extent that this thesis contains wisdom, it contains the work of a servant of the one true god. To the extent that this thesis represents but the folly of a pretentiously self-trusting sophist, it is testimony to the fact that while my hope is sealed in the completed work of Christ, it has not yet been consummated by his glorious return. May he come quickly!

Of all the mere humans who have helped me greatly in the production of this work, the one to which I owe most is my beautiful, selfless wife, K.D. Norman. Instead of continuing from her honours degree in Biology to medical school, financial security, and the praise of her extended family that she desires so much, she moved with me across the Atlantic, thousands of miles from anything and anyone she had ever known, to serve coffee and muffins to tourists while I spent long hours among some of the world's most prestigious academics. Though I will spend the rest of our lives together trying, I know that I will never be able to repay her.

I also owe a deep debt of gratitude to the one person in the world today who knows the most about Donald M. MacKay, Dr. Valerie MacKay. Not only did she toil for years through immense personal grief to compile D. M. MacKay's Gifford lectures and make them publicly available, but she has also greatly assisted me personally in the research behind this thesis. I would especially like to thank her for the ten day tour she provided to K.D. and me in September 2002. During that tour, she introduced us to D. M. MacKay's world—not only his personal papers and photographs (some of which are either mentioned or reproduced by permission in this thesis), but also to some of the most beautiful scenery and stately homes of England and Wales.

I would also like to acknowledge Charles S. MacKenzie. If it were not for his steady encouragement through the darkest years of my academic self-esteem, I would now be receiving an hourly wage from an Alabama electricity plant rather than a Ph.D. from one of the most prestigious universities in the world.

I would also like to thank the following people for the roles they played in formative periods of my academic life: The Congregation of Holyrood Abbey in Edinburgh for being a faithful spiritual family to foreigners such as I; Marvin McDonald for compiling the most extensive D. M. MacKay bibliography available in 2001 and for posting it on the World Wide Web; Martin Cameron for putting me on to the work of his uncle that providential afternoon in Orlando; Steve Malone for teaching me the powerful, philosophical impact of Grace; Sister Celine for teaching me that the fear of God is not merely wisdom, but also peace; Daniel Norman, my big brother, for always being worthy of my greatest respect; my parents, for making the creation of a Godly home their first priority; and Robert Norman, Sr., for teaching me that being an optimist often requires one to be an excellent philosopher.

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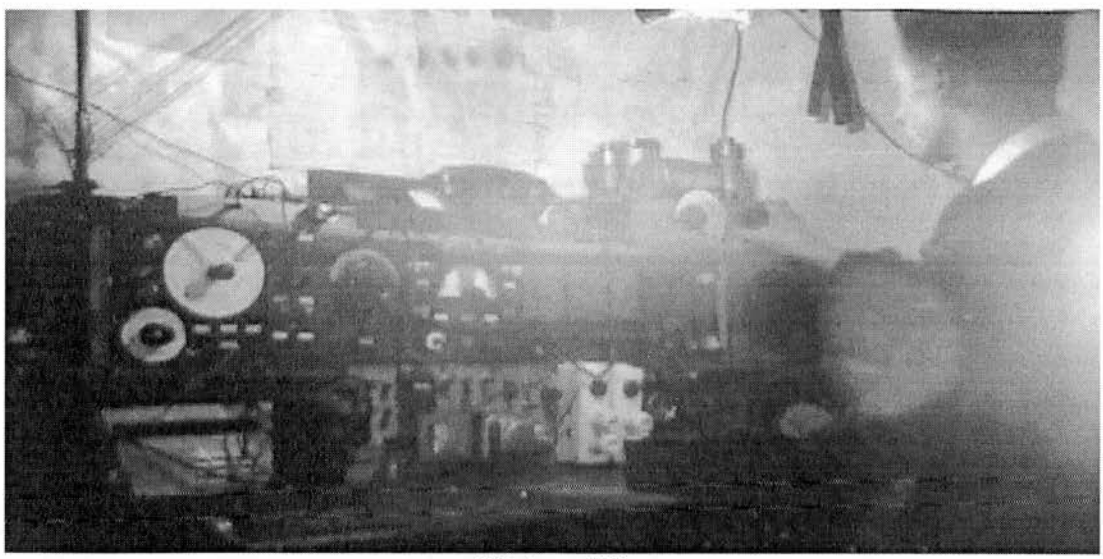
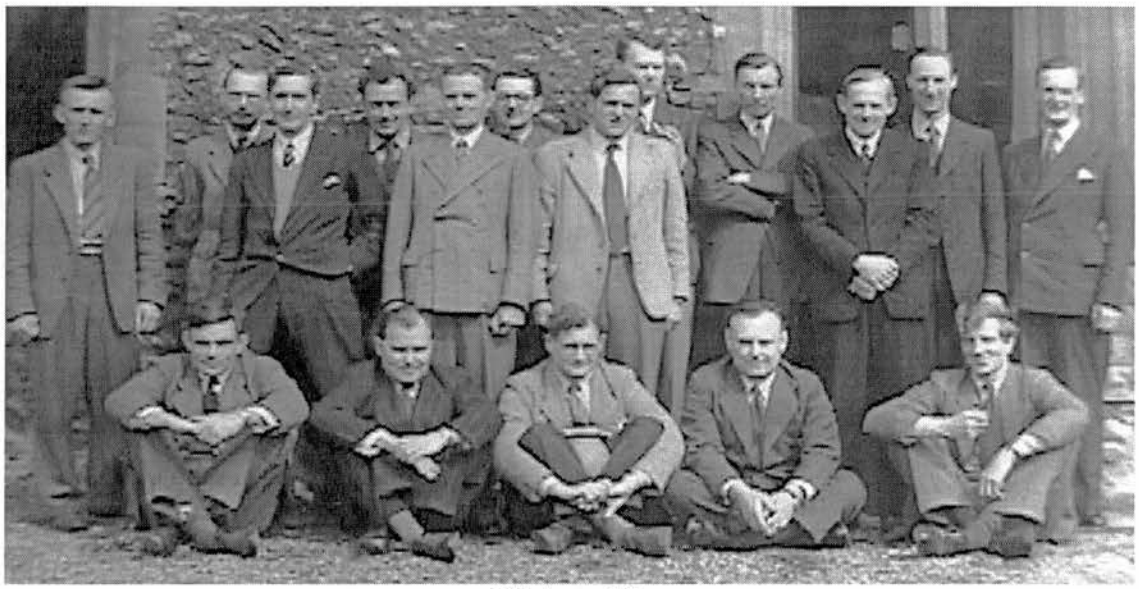


Picture # 2
Donald MacKay in Wick with his electronics workshop (around 1940)

[1] All pictures reproduced by permission of their owner, Valerie MacKay. They were copied at her residence in Wales, September, 2002.



Picture # 3

Bottom Row, left to right: Turing, Sayers, Rushton, Dawson, and Barlow
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Picture # 4

In this picture, taken from a larger photograph of the 1953 Maxwell Society of King's College, London, shows Donald MacKay on the bottom left and Valerie Wood on the bottom right.

Picture # 5
Donald and Valerie MacKay on their honeymoon, July 1955

Picture # 6
D. M. MacKay receiving an honorary degree from St. Andrews University, 1986

Chapter 1: Setting the Scene

In this thesis, we are seeking to examine a relatively narrow aspect of the work of Donald M. MacKay. In particular, we are seeking to examine his work in relation to a very specific problem as it presents itself to a relatively specific group of people. The problem we will seek MacKay's help in working through is what has come to be known by contemporary Anglo/American philosophers as 'the mind/body problem'. The group of people we will be attempting to help deal with this problem is the contemporary evangelical Christian Church.

What we are dealing with is essentially a *contemporary* problem as it relates to a *contemporary* system of belief. Though in this sense, this thesis is decidedly *not* historical, it must be acknowledged that the historical roots of both the system of belief it sets out to preserve and the problem it sets out to work through run very deeply. In fact, even before God's people were called 'the Christian Church', there was a mind/body problem—and ever since the Church took up the task of explaining her beliefs, something like the mind/body problem has been an issue.

In these introductory chapters (chapters 1 and 2), it will be our intention to set the work of Donald M. MacKay within the history of the Church's struggle to understand the complex relationships between our physical, mental, and spiritual lives—a struggle we will henceforth refer to as 'metaphysical anthropology'. Because we have so much history to cover by way of introducing our main topic, however, our 'historical' introduction must be both highly selective and very general. For this reason, we must stress from the outset that these first two chapters are intended more as an introduction to a problem than the history of a debate. Though it will be our intention to at least mention the most important historical developments, volumes could be (and in many cases have been) written on the subjects that we must cover in only a few pages—or in some cases, only a few words. We will soon find ourselves enthralled in the intricacies of philosophical and theological debate, but hopefully not until after we have completed our historical introduction.

In this first chapter, we will attempt to sketch a general timeline of the major developments in Western metaphysical anthropology up until the beginning of MacKay's academic career. In chapter 2 we track the major developments in MacKay's career, paying special attention to the development of the mind/body problem in Anglo/American philosophical discourse. Then, once we have

introduced the general historical context in which MacKay first presented his ideas, we will attempt a systematic exposition of his unique, scientifically, philosophically and theologically informed, Christian metaphysical anthropology.

Because Plato's writing has been so influential on the way Western thinkers down through the millennia have understood mind/body relations, we must begin this first chapter with a brief discussion of his metaphysical anthropology. We will then discuss how Plato's views (which were deeply engraved in the minds of the early Christian intellectual establishment) were received by several of the most prominent thinkers in the early Church. In the third section of this chapter we will offer a general summary of the way in which these early teachings were solidified into an 'orthodox' position by St. Augustine and other major Church leaders as Christianity rose to prominence as an intellectual and political force. In section four we will attempt to portray a few of the ways in this 'orthodox' metaphysical anthropology came to be questioned during the Protestant Reformation and how this situation was stabilised by a return to what may generally be regarded as the Platonic tradition. In our final two sections we will very briefly provide a rough sketch of René Descartes' plan for grounding dualistic metaphysical anthropology in the radical scepticism of the seventeenth century and how his work eventually became the foundation for modern psychology. In short, therefore, it will be the goal of this chapter to introduce the mind/body problem as it presented itself to the Christian Church at the beginning of MacKay's career.

I. Plato and the Pre-Church Era

Without a doubt, the one person who has had the most influence on the history of the mind/body problem, especially as it relates to Christian theology, is Plato. Though the entire system of Western philosophy is dependent in some way or other on his work, the aspect of his thought that most directly relates to our investigation is his radical dualism between the soul and body of a human being.

We find the clearest expression of this dualism in the *Phaedo*—the dialogue in which Plato describes the death of Socrates.[1] In this dialogue, Socrates argues for and

[1] This dialogue, generally considered to be representative of Plato's 'early' thought (at least to the extent that the distinctions between the 'early', 'middle' and 'late' Plato are acknowledged), is of especial interest to our study not only because it concentrates on the nature of the soul in its relation to the body, highlighted by the impending crisis of death, but also because it represents one of Plato's most distinctively 'religious' treatments of the soul (as opposed to the more 'political' and

exemplifies belief in the immortality of the soul. His example of peace, and even joy, in the face of death is one that has profoundly influenced Christian thinking—not only the Christian attitude towards death, but also the Christian understanding of the relationship between our mental and physical lives. With regard to the Christian attitude towards death, consider the words of Phaedo as he describes the nobility of Socrates' attitude in his dying hours:

> The master seemed quite happy, Echecrates, both in his manner and in what he said; he met his death so fearlessly and nobly. I could not help feeling that even on his way to the other world he would be under the providence of God, and that when he arrived there all would be well with him, if it ever has been so with anybody. So I felt no sorrow at all, as you might have expected on such a solemn occasion . . . I felt an absolutely incomprehensible emotion, a sort of curious blend of pleasure and pain combined, as my mind took it in that in a little while my friend was going to die.[2]

Is this not closely parallel to the sort of things we might expect to hear at a contemporary Christian funeral?[3] Later in the dialogue, Socrates explains that his fearlessness and nobility in the face of death are fuelled not merely by a happy resignation in the face of his inevitable fate, but by his impression of the nature of death. Socrates honestly thinks that for the philosopher, death is preferable to life.[4]

In explaining the way he thinks death should be understood, Socrates showcases his radical body/soul dualism. This dualism has profoundly influenced the philosophical heritage of the Christian Church, inspiring centuries of gnosticism, asceticism, and general 'high mindedness'.[5] Socrates argues that death is to be looked forward to by

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'ontological' approaches to be found in those dialogues which are often associated with the 'middle' and 'late' epochs of Plato's thought). For more on the three epochs of Plato's thought as they relate to his concept of the soul, see (Partee 1969) pp. 278-285.

[2] (Plato 1996) p. 42

[3] The degree to which the Christian ethic of dying has been influenced by the example Plato records in the *Phaedo* was highlighted by the firestorm of controversy met by Oscar Cullmann when, in 1955, he published a booklet comparing and contrasting the death of Socrates as portrayed by Plato and the death of Jesus of Nazareth as portrayed by the Gospel narratives (Cullmann 1958). We will discuss Cullmann's work in more detail in chapter 6.

[4] He does acknowledge, however, that suicide is not to be considered, because it amounts to a rebellion against the gods that embodied the soul to begin with.

[5] This tradition has so profoundly influenced our modern view of history that it may be difficult to imagine a time when this sort of transcendent longing was not a goal of religion. When reading the earliest Hebrew Scriptures (e.g. The Pentateuch), however, one cannot help but be struck by the physicality of the vision of the good life portrayed therein.

the philosopher because the body hinders our pursuit of life's finer things.[6] Naturally, to support of this line of reasoning he must defend the assumption that the soul survives the death of the body.

The idea of reincarnation, which is one of the least popular of Plato's views in the Christian Church, plays a central role in Socrates' argument for the immortality of the soul, though, as we shall see, the final stage of his reasoning does not depend entirely on that doctrine. For the sake of brevity, we will break his argument down into three stages, elaborating only on those stages that have most influenced Christian theology.

The first stage of Socrates' argument for the immortality of the soul revolves around the idea that if the soul ceases to exist (at least in its individuated state) with the death of the body, then it would be impossible for the soul to be reincarnated. This idea is taken more or less as a premise, the major work of the argument being to support belief in reincarnation. With regard to reincarnation, Socrates argues that since nothing can be defined except by its opposite, for there to be living people, there must also be dead people. Since we regularly observe that people die and are born, Socrates further argues, we must also acknowledge that the living and the dead

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[6] For example, Phaedo reports the following conversation between Socrates and Simmias:

> Do you think that it is right for a philosopher to concern himself with the so-called pleasures connected with food and drink? Certainly not, Socrates, said Simmias. And what about sexual pleasures? No, not at all. And what about the other attentios that we pay to our bodies? Do you think that a philosopher attaches any importance to them? . . . I think the true philosopher despises them, he said. Then it is your opinion in general that a man of this kind is not concerned with the body, but keeps his attention directed as much as he can away from it and toward the soul? Yes, it is. So it is clear first of all in the case of physical pleasures that the philosopher frees his soul from association with the body, so far as it is possible, to a greater extent than other men? Yes, it is. (Plato 1996) p. 47

Likewise, Socrates is also reported to have said:

> So long as we keep to the body and our soul is contaminated with this imperfection, there is no chance of our ever attaining satisfactorily to our object, which we assert to be truth . . . We are in fact convinced that if we are ever to have pure knowledge of anything, we must get rid of the body and contemplate things by themselves with the soul by itself. It seems, to judge from the argument, that the wisdom which we desire and upon which we profess to have set our hearts will be attainable only when we are dead, and not in our lifetime. If no pure knowledge is possible in the company of the body, then either it is totally impossible to aquire knowledge, or it is only possible after death, because it is only then that the soul will be separate and independent of the body. It seems that so long as we are alive, we shall continue closest to knowledge if we avoid as much as we can all contact and association with the body, except when they are absolutely necessary, and instead of allowing ourselves to become infected with its nature, purify ourselves from it until God himself gives us deliverance. (Plato 1996) p. 49

swap roles from time to time.[7] We may summarise this first stage in Socrates argument, therefore, as follows: Since the soul must survive death for reincarnation to be possible, and belief in reincarnation is justified, belief in the immortality of the soul is also justified.

The Christian Church has not taken this first stage in Socrates' argument very seriously because reincarnation implies a cyclical understanding of time—which is antithetical to even the most basic tenets of Christian eschatology. But the second and especially the third stages of his argument have been taken very seriously by the Church, because they revolve around a theory regarding the nature of truth which has not been questioned until fairly recently.[8] This theory states that truth is timeless and unchanging, in direct contrast to the constant change taking place within the spatio-temporal matrix of the physical world.

The second stage of Socrates' argument (which still depends heavily on his doctrine of reincarnation) goes like this: 1) If truth is really detached from this changing world (i.e. if truth is really changeless), and 2) It is possible for people to know truth, then 3) It can only be the case that when people *know* truth, they must be *remembering* things that they knew during a time in which *they* were not a part of this changing, physical world.[9] Plato develops this argument in some detail, but, although it revolves around a theory of truth that has been widely accepted, it also remains closely tied to the idea of reincarnation. The second stage of Socrates argument, therefore, has had far less of an influence on Western thought than his third stage.

The third stage of Socrates' argument is like his second in that it regards the nature of truth and the possibility of our knowing it, but it goes beyond the assertion of the pre-existence of the soul to speak to the soul's very nature. It is this third stage of his argument that has resonated most strongly with thinkers in the Christian tradition. It climaxes in the following exchange:

> So you think that we should assume two classes of things, one visible and the other invisible?
>
> Yes, we should.

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[7] (Plato 1996) pp. 52-55

[8] See note 10, below.

[9] (Plato 1996) pp. 55-61

> The invisible being invariable, and the visible never being the same?
>
> Yes, we should assume that too.
>
> Well, now, said Socrates, are we not part body, part soul?
>
> Certainly.
>
> Then to which class do we say that the body would have the closer resemblance and relation?
>
> Quite obviously to the visible.
>
> And the soul, is it visible or invisible?
>
> Invisible to men, at any rate, Socrates, he said.
>
> . . . Did we not say some time ago that when the soul uses the instrumentality of the body for any inquiry, whether through sight or hearing or any other sense—because using the body implies using the senses—it is drawn away by the body into the realm of the variable, and loses its way and becomes confused and dizzy, as though it were fuddled, through contact with things of a similar nature?
>
> Certainly.
>
> But when it investigates by itself, it passes into the realm of the pure and everlasting and immortal and changeless, and being of a kindred nature, when it is once independent and free from interference, consorts with it always and strays no longer, but remains, in that realm of the absolute, constant and invariable, through contact with beings of a similar nature. And this condition of the soul we call wisdom.
>
> An excellent description, and perfectly true, Socrates.

Though a full discussion of all the points raised in this exchange would take us appreciably off course at this juncture, we should note that Plato is arguing here for at least two forms of dualism: one epistemological and the other metaphysical. The epistemological dualism posits a radical distinction between the 'unchangeable' truths of the intellectual realm on the one hand and the 'changeable' representations of those facts in our directly observable world on the other. While this kind of epistemological dualism has been the source of enormous debate within modern philosophical theology[10], it only relates to our present study in that, for Plato, it grounded his metaphysical dualism, which has plagued metaphysical anthropology

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[10] This epistemological dualism has been questioned not only by those 'post-modern' thinkers who have yet to gain wide acceptance by the contemporary Christian Church, but also by those thinkers in the twentieth century who rejected the theological distinction between 'natural' and 'revealed' theology. For a concise introduction to a form of 'post-modern' epistemology that may turn out to be acceptable by the Christian Church, see (Murphy 1997)and (Murphy 1996). For an introduction to the non-dualist epistemology that grounded twentieth century rejection of natural theology, see (Torrance 1976) (especially his Preface and Introduction).

ever since. This metaphysical dualism, as it relates to metaphysical anthropology, posits a radical distinction between our material existence (i.e. 'our bodies') on the one hand and some immaterial existence (i.e. 'our souls', 'our minds' or 'the *real* us') on the other.

Perhaps one of the main reasons that this metaphysical duality was preserved so readily by Christian theology has to do with the concept of humanity as the image of God. Christian doctrine regarding the divine image is ostensibly grounded in biblical narrative. In Genesis 1:26 &27, we read that humanity was created in the image of God. It is important to note, however, that very little explanation is provided in the biblical account as to what we are to make of such an important fact of our existence. The New International Version renders these verses as follows:

> Then God said, 'Let us make man in our image, in our likeness, and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth, and over all the creatures that move along the ground.' So God created man in his own image, in the image of God he created him; male and female he created them.

Though some commentators have developed the idea suggested by these verses that our being in the image of God relates to our station relative to the other particulars of God's creation, most have seen fit to draw conclusions of a more distinctly metaphysical orientation. These metaphysical conclusions have (whether directly or indirectly) borrowed heavily from Plato's anthropology. After all, Plato gives much more detail than Genesis regarding what it might mean for human beings to reflect the divine nature. We come across this detail as we continue to read from the section quoted immediately above.

> Look at it this way too. When a soul and body are both in the same place, nature teaches the one to serve and be subject, the other to rule and govern. In this relation which do you think resembles the divine and which the mortal part? Don't you think that it is the nature of the divine to rule and direct, and that of the mortal to be subject and serve?
>
> I do.
>
> Then which does the soul resemble?
>
> Obviously, Socrates, soul resembles the divine, and body the mortal.
>
> Now, Cebes, he said, see whether this is our conclusion from all that we have said. The soul is most like that which is divine, immortal, intelligible, uniform, indissoluble, and ever self-consistent and invariable, whereas body is most like that which is human, mortal, multiform, unintelligible, dissoluble, and never self-consistent. Can

> we adduce any conflicting argument, my dear Cebes, to show that this is not so?
>
> We cannot.[11]

This low view of the human body (relative to the soul) is reflected not only in the grotesque rumours concerning the ancient philosophers' tendencies towards paedophilia, but also in their attitudes towards dead bodies. Though all legitimate forms of Christianity unequivocally reject the sexual exploitation of the bodies of children, the attitude expressed by Socrates towards his own soon-to-be-dead body may sound eerily familiar to modern Christians. At the close of the *Phaedo*, we find the following exchange between Crito and Socrates:

> But how shall we bury you?
>
> Any way you like, replied Socrates, that is, if you can catch me and I don't slip through your fingers.
>
> He laughed gently as he spoke, and turning to us went on, I can't persuade Crito that I am this Socrates here who is talking to you now and marshalling all the arguments. He thinks that I am the one whom he will see presently lying dead, and he asks how he is to bury me! As for my long and elaborate explanation that when I have drunk the poison I shall remain with you no longer, but depart to a state of heavenly happiness, this attempt to console both you and myself seems to be wasted on him . . . you must assure him that when I am dead I shall not stay, but depart and be gone . . . No, you must keep up your spirits and say that it is only my body that you are burying, and you can bury it as you please, in whatever way you think is most proper.[12]

To sum up Socrates' third and (at least for our purposes) most important argument for the immortality of the soul, then, we can identify three key points:

1) Because we know that it is possible for human beings to know at least some truths, we must say that some part of our nature participates in the realm of truths.

2) Since the realm of truths is unchangeable, that part of the human being that participates in it cannot ever die.

3) Since our physical bodies clearly change and even die, there must be some other portion of our being which participates in the world of truths and is

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[11] (Plato 1996) p. 63

[12] (Plato 1996) pp. 95-96

therefore immortal. This rational and immortal portion of our being is what we call 'our souls'.

Though it does not necessarily form an essential stage in his argument for the immortality of the soul, we also identified a fourth, tightly related, point that has had a profound influence on Christian metaphysical anthropology. This point can be summarised as follows:

4) A person's soul (as opposed to a person's body) is the portion of a person's existence that most directly reflects the divine nature. The value of our souls, therefore, infinitely exceeds the value of our physical bodies. Though we may have an indefinite succession of physical embodiments, it is only our selves-as-souls that have any ultimate value.

II. The Biblical Era

Of all the texts we will be mentioning in this brief historical introduction, the Bible is, without a doubt, the most important. After all, if it were possible to unequivocally ascertain the position of the Bible with regard to metaphysical anthropology, we could effectively solve the whole problem (at least for evangelicals) here and now. Unfortunately, however, the Bible never directly addresses this issue. In fact, even what little *indirect* evidence can be found in Scripture is inconclusive.

With regard to our present historical introduction to the mind/body problem, therefore, we must simply content ourselves with the acknowledgement that highly competent scholars disagree as to the metaphysical anthropology of the Bible.[13] Rather than delve in to Hebrew and Greek word studies or scrutinize a vast assemblage of obscure 'proof texts' as other scholars have already done, we will simply acknowledge that the success or failure of the position expressed in subsequent chapters necessarily depends upon its being the *best* available interpretation of the Scriptures—recognizing, of course, that all genuine knowledge, whether it comes to us from philosophers, scientists, or whomever, helps us to interpret the Bible, and it is the Bible that is the most authoritative statement of God's revelation available to the contemporary Christian church. With this at the

[13] Although much has been written with regard to biblical anthropology in general, the two thinkers who have most specifically and competently analysed the biblical data with regard to the modern debate over metaphysical anthropology are John W. Cooper (Cooper 2001; Cooper 2000) and Joel Green (Green 1998; Green 2002).

forefront of our minds, therefore, we will now proceed in our historical introduction with a brief examination of the positions maintained by the some of the most prominent thinkers of the patristic era.

III. Patristic Era

The earliest works of the Patristic era that directly relate to our present study were produced fairly late in the second century A.D. Despite the fact that some 600 years had passed since Plato wrote the *Phaedo*, the intellectual world in which these early Patristic works were composed was deeply influenced by Plato's philosophy. After all, Aristotle, Plato's most famous student, was the personal tutor of Alexander the Great, who conquered the entire Mediterranean world. Not only that, but the Romans, who controlled the intellectual, military, political, and cultural[14] hegemony in which the life of Christ and the early Church were situated, were particularly fond of Greek culture and philosophy.

A. Justin and the Greek Apologists

Though the Greek apologists were, like all the great intellectuals of their time, deeply influenced by their extensive training in Greek philosophy, their work in defending the beliefs of persecuted Christians led them to challenge some of the most basic tenets of the intellectual status quo. Of particular interest to our study are those challenges to the Greek philosophical hegemony that, whether directly or indirectly, called the accepted Platonic metaphysical anthropology into question.

For this reason, two tracts on the resurrection of the body reputedly written by Greek apologists will be of especial interest. Even before we discuss these tracts in any detail, however, we should note the extent to which their very *topic* represents a distinct break from the philosophical status quo. After all, the resurrection is one of those doctrines that, while central to the hope of the Christian faith[15], is deeply antithetical to the Platonic understanding of the nature of humanity. For, while the Platonic doctrine of reincarnation has the soul going one direction after death (into a

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[14] Jesus' Hebrew cultural background was, of course, situated within the wider context of Roman cultural toleration.

[15] See, for example, Paul's reasoning concerning the resurrection in 1 Corinthians 15:12ff.

new, different body), the Christian doctrine of bodily resurrection has the soul going in another (being united to the very same body which had once died).[16]

It is not as if the bodily resurrection was a new idea to the Greek apologists (they wrote at least 100 years after the revolutionary event of Jesus' resurrection), but their works represent the earliest known non-canonical attempts to reconcile the Christian doctrine of bodily resurrection with the dominant metaphysical anthropology inherited from Plato.

Athenagoras of Athens, who wrote his most famous work, *Plea for the Christians,* around A.D. 177, is also believed to have written the very first Christian treatise on the resurrection of the body.[17] Athenagoras taught that, despite Plato's insistence that the fate of our bodies is more or less inconsequential to 'the real us', human beings are neither body nor soul in isolation, but an essentially integrated psychosomatic unity. We see this aspect of Athenagoras' thought most clearly in chapter 15 of his 'On the Resurrection', where he says:

> But that which has received both understanding and reason is man, not the soul by itself. Man, therefore, who consists of the two parts, must continue forever. But it is impossible for him to continue unless he rise again. For if no resurrection were to take place, the nature of men as men would not continue.[18]

Justin Martyr has also been accredited with an early treatise on the resurrection, though the authorship of this treatise has been questioned even more intensely than

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[16] We use this talk of the soul 'going' places here only with extreme reluctance. As our discussion of MacKay's metaphysical anthropology develops, we will see that this language could be very deceiving. As we have seen, however, this was the way Plato talked about the soul, so even as they challenged Plato's understanding of what happens to the soul upon death, early Church theologians used the word 'soul' in a relatively Platonic way.

While the language used here may be helpful in highlighting the incompatibility of Platonic and Christian individual eschatology, it may also be misleading in that it suggests univocality between Christian and Platonic discourse about the soul. While most theologians (especially before Thomas Aquinas) *did* think of the soul in this Platonic sort of way, many theologians, including Donald M. MacKay, have argued that the soul should have been thought of differently. In contrast to the Platonic concept of soul, MacKay's system would not allow one to say that a soul could leave its body any more than one could say that a certain blackness could leave its lump of coal.

[17] There is some scholarly debate over the authorship of this tract, though Athenagoras is certainly the most likely candidate. For scholarship questioning Athenagoras' authorship, see (Athenagoras and Schoedel 1972; Grant 1954). Both of these writers claim that the tract is most likely written against Origen in the third century. For scholarship defending Athenagoras' authorship, see (Barnard 1972; Barnard 1984; Rauch 61).

[18] (Athenagoras 2001)

that of Athenagoras.[19] In fact, in one recent study of this work[20], Martin Heimgartner even suggests that Athenagoras may have written it instead of Justin.[21] Regardless of its author, however, this treatise on the resurrection, like the one attributed to Athenagoras, exhibits a non-Platonic metaphysical anthropology. Though some portions of his work on the resurrection have been lost, it is still not difficult to find clear evidence of a metaphysical anthropology emphasising psychosomatic unity. In chapter 8 of the extant fragments, for example, we read:

> But, in truth, He has even called the flesh to the resurrection, and promises to it everlasting life. For where He promises to save man, there He gives the promise to the flesh. For what is man but the reasonable animal composed of body and soul? Is the soul by itself man? No; but the soul of man. Would the body be called man? No, but it is called the body of man. If, then, neither of these is by itself man, but that which is made up of the two together is called man, and God has called man to life and resurrection, He has called not a part, but the whole, which is the soul and the body.[22]

Although both of these early treatises on bodily resurrection clearly indicate that the Greek apologists rejected the Platonic idea that the fate of our physical embodiment is irrelevant to the life of the soul, it would be wrong to assume that such a rejection resulted in a materialistic metaphysical anthropology. After all, even in the brief passages we have cited we see that the Greek apologists continued to think of body and soul as two different *things*[23] which, when united, constitute a human being. The underlying idea, therefore, would seem to be that although a human being must have a physical body in order to *be* a human being, every human being has a non-material 'part' as well. In this sense, the Greek apologists were even more dualistic in their metaphysical anthropology than was Plato, for whereas Plato taught that when body and soul separate, the person continues to live as a soul despite the death of his or her body, the Greek apologists taught that when body and soul separate the person is destroyed in death. For the Greek apologists, therefore, our only hope for continuing

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[19] Though he recognises the importance of such defenders of Justinian authorship as Friedrich Loofs and Pierre Prigent (Prigent 1964; Loofs 1930), Brian Daley (Daley 1991) concludes that their arguments fall to the criticism of F. R. Montgomery Hitchcock (Hitchcock 1937-1938).

[20] (Heimgartner 2001)

[21] Another important, recent study (Bynum 1995) concludes that challenges to Justinian and Athenagorian authorship are not convincing. But because this study treats the two treatises together, its conclusion would not necessarily conflict with that of Heimgartner.

[22] (Justin 2001)

[23] See note 15 above.

personal existence after death involves the restoration of human duality through bodily resurrection and re-animation. Where either a soul *or* a body is absent, we can have no human existence.

We must also be very careful, however, not to read too many distinctions that may be clear to modern philosophical minds back into the philosophy of ancient writers. After all, we also find passages in these treatises contrasting the immortal human spirit with the (apparently mortal) human soul, despite the fact that we are offered very little information regarding the metaphysical implications of such an immortal aspect of human existence. In particular, it is unclear how our immortal spirits relate to our souls, minds and bodies. Consider, for example, the final chapter of the treatise traditionally attributed to Justin:

> The resurrection is a resurrection of the flesh which died. For the spirit dies not; the soul is in the body, and without a soul it cannot live. The body, when the soul forsakes it, is not. For the body is the house of the soul; and the soul the house of the spirit. These three, in all those who cherish a sincere hope and unquestioning faith in God, will be saved. Considering, therefore, even such arguments as are suited to this world, and finding that, even according to them, it is not impossible that the flesh be regenerated; and seeing that, besides all these proofs, the Saviour in the whole Gospel shows that there is salvation for the flesh, why do we any longer endure those unbelieving and dangerous arguments, and fail to see that we are retrograding when we listen to such an argument as this: that the soul is immortal, but the body mortal, and incapable of being revived? For this we used to hear from Pythagoras and Plato, even before we learned the truth. If then the Saviour said this, and proclaimed salvation to the soul alone, what new thing, beyond what we heard from Pythagoras and Plato and all their band, did He bring us? But now He has come proclaiming the glad tidings of a new and strange hope to men. For indeed it was a strange and new thing for God to promise that He would not keep incorruption in incorruption, but would make corruption incorruption.[24]

B. Tertullian and the Latin Apologists

The Carthaginian lawyer Quintus Septimius Florens Tertullian (c. 160-c. 220) was another early Church theologian to make a significant contribution to Christian metaphysical anthropology. The first thing we need to mention regarding Tertullian's contribution is that his attitude towards Plato is somewhat less than

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[24](Justin 2001) chapter 10

congenial. In addition to such widely quoted statements as 'So, then, where is there any likeness between the Christian and the philosopher? Between the disciple of Greece and of heaven?'[25], Tertullian also makes repeated allusions to Plato's supposed paedophilia and other gross manifestations of Greek immorality.[26]

Tertullian not only rejected the tendency of some early Christian intellectuals to elevate the authority of the Greek philosophers, but he also criticised Platonic metaphysical anthropology. In the opening lines of his treatise on the soul, for example, we find the following comments on Socrates as he is presented in the *Phaedo*:

> . . . all the wisdom of Socrates, at that moment, proceeded from the affectation of an assumed composure, rather than the firm conviction of ascertained truth. For by whom has truth ever been discovered without God? By whom has God ever been found without Christ? By whom has Christ ever been explored without the Holy Spirit? By whom has the Holy Spirit ever been attained without the mysterious gift of faith? Socrates, as none can doubt, was actuated by a different spirit. For they say that a demon clave to him from his boyhood—the very worst teacher certainly, notwithstanding the high place assigned to it by poets and philosophers . . . Now if Socrates was pronounced the wisest of men by the oracle of the Pythian demon, which, you may be sure, neatly managed the business for his friend, of how much greater dignity and constancy is the assertion of the Christian wisdom, before the very breath of which the whole host of demons is scattered![27]

Aside from his disdain for Plato, however, Tertullian is not entirely clear on his own metaphysical anthropology. Perhaps the most striking aspect of his view, however, is that he believed that our souls as well as our bodies are essentially corporeal. Though this aspect of his metaphysical anthropology raises all sorts of bizarre and interesting implications, the most important aspect of Tertullian's thought for our purposes is that so much of his theoretical speculation was motivated by a problem that also happens to be the most significant difficulty underlying the modern mind/body problem—namely, the problem of mental causation.

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[25] Chapter 46 of (Tertullian 2001a)

[26] Though multiple examples of these kinds of accusations can be found in Tertullian's writing, one example can be found in chapter 55 of his treatise on the resurrection of the flesh, where he says, 'When the world, indeed, shall pass away, then the kingdom of heaven shall be opened. Shall we then have to sleep high up in ether, with the boy-loving worthies of Plato. . .?' (Tertullian 2001b)

[27] (Tertullian 2001c)

Tertullian makes the problem of mental causation one of his central arguments for the corporeality of the soul. Tertullian's reasoning, which we find in his treatise on the soul, goes like this:

> Again, there is nothing in common between things corporeal and things incorporeal as to their susceptibility. But the soul certainly sympathizes with the body, and shares in its pain, whenever it is injured by bruises, and wounds, and sores: the body, too, suffers with the soul, and is united with it (whenever it is afflicted with anxiety, distress, or love) in the loss of vigour which its companion sustains, whose shame and fear it testifies by its own blushes and paleness. The soul, therefore, is (proved to be) corporeal from this inter-communion of susceptibility. Chrysippus also joins hands in fellowship with Cleanthes when he lays it down that it is not at all possible for things which are endued with body to be separated from things which have not body; because they have no such relation as mutual contact or coherence. Accordingly Lucretius says:
>
> 'Tangere enim et tangi nisi corpus nulla potest res.'
>
> 'For nothing but body is capable of touching or of being touched.'
>
> (Such severance, however, is quite natural between the soul and the body); for when the body is deserted by the soul, it is overcome by death. The soul, therefore, is endued with a body; for if it were not corporeal, it could not desert the body.[28]

While this reasoning may convince Tertullian of the corporeality of the soul, it still does not entirely solve the mind/body problem—and that by his own admission. For it is not clear to Tertullian what the body of the soul would be like[29], and particularly, whether or not the body of the soul would be sufficient to individuate and sustain thoughts as our thoughts are individuated and sustained by the flesh with which the soul is united throughout life. We see Tertullian struggle with these questions in his treatise 'On the Resurrection of the Flesh'. There we read:

> But if you allow that the faculty which rules the senses, and which they call Hegemonikon, has its sanctuary in the brain, or in the interval between the eyebrows, or wheresoever the philosophers are pleased to locate it, the flesh will still be the thinking place of the soul. The soul is never without the flesh, as long as it is in the flesh. There is nothing which the flesh does not transact in company with the soul, when without it does not exist. Consider carefully, too, whether the thoughts are not administered by the flesh, since it is through the flesh

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[28] Chapter 5 (Tertullian 2001c)

[29] As Peter Geach argues (Geach 1957) p. 112, positing a subtle body such as Tertullian's corporeal soul as the seat of mental awareness solves the mind gross-body problem only at the expense of having created a mind subtle-body problem. We will have much more to say about this in chapter 6.

> that they are distinguished and known externally. Let the soul only meditate some design, the face gives the indication--the face being the mirror of all our intentions. They may deny all combination in acts, but they cannot gainsay their co-operation in thoughts.[30]

Though the Greek and Latin apologists (most significantly Athenagoras, Justin, and Tertullian) made significant contributions to the work of developing a distinctively Christian metaphysical anthropology, their work is overshadowed to a large extent by the massive influence of the fourth century theologian Augustine of Hippo.

C. Augustine

The most widely recognised theologian of the fourth and fifth centuries (and the sixth through twelfth centuries as well, for that matter) is, without question, St. Augustine. Though several important councils earlier in the fourth century sealed into orthodoxy the more fundamental tenents of the Christian faith, the tension between the different metaphysical anthropologies of different early Church theologians[31] eased only after a theologian as important as Augustine began writing on the subject. Unfortunately, however, even if we were to limit our study to this single theologian, we would not find a single, unified metaphysical anthropology, for Augustine's position developed substantially throughout his career. Though the complexity of Augustine's position prevents us from offering much detail regarding the overall influence of this thought, a few key points demand comment.

First, we should note that the progression in Augustine's position was a progression *away* from his neoplatonic origins—particularly with regard to his understanding of the importance of the body to the life of the soul.[32] Roland Teske describes this progression as follows:

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[30] Chapter 15 (Tertullian 2001b)

[31] In brief surveys such as the one in which we are presently involved, it is always difficult to know which thinkers are important enough to discuss. One major thinker that we are not discussing here is Origen (d. 253/254). The main reason we are not discussing his thought is that it has provoked 'more heat than light' in the history of theology, being the subject of immense controversy, especially in the sixth century. Because his metaphysical anthropology was so controversial, the process of separating the real Origen from the Origenist sect of the sixth century would take more space that we can presently allow. For those who may be especially interested in Origen's metaphysical anthropology, however, the most complete study is (Cornèlis 1959). A helpful, shorter discussion can be found on pp. 47-64 and 188-190 of (Daley 1991).

[32] For a full study on the progression within Augustine's metaphysical anthropology from a staunchly neo-Platonic view in his early years to a more distinctively Christian view later in life, see (John A. Mourant 1969).

> In his earlier writings, he defines the human soul in Platonic fashion as "a certain substance partaking in reason and suited to rule the body" (*De quant. Anim. 13.22*) and says that "a human being, as seen by a human being, is a rational soul using a mortal and earthly body" (*De moribus ecclesiae catholicae 1.27.52*). In later writings he places more emphasis upon the unity of the human being. Though Augustine says that a human being is "a rational soul which has a body," he also says that "the soul which has a body does not make two persons, but one human being" (*In Johannis evangelium tractatus 19.15*). A human being can be defined as a single substance with a body and a soul: "If we should define a human being such that a human being is a rational substance consisting of soul and body, there is no doubt that a human being has a soul which is not the body and has a body which is not the soul" (*De Trin. 15.7.11*).[33]

Likewise, Bonnie Kent says:

> Having himself believed this during his Manichaean period, Augustine argues all the more passionately later on against denigrating the body. Indeed, Christian doctrine on the resurrection of the body, a source of dismay to the Athenians who heard St. Paul preach, was one of the main issues dividing early Christianity from all contemporary pagan schools of philosophy. Far from equating the human being with the soul, Augustine insists that human beings are by nature embodied—that God created us this way, so that we should never regard our bodies as prisons or punishments.[34]

Furthermore, we must note that Augustine's increasing respect for the human body was not merely a reaction against neo-Platonism. This shift in his thought was motivated, rather, by his increasing understanding of the philosophical implications of the Gospel narratives. As Brian Daley, commenting on Augustine's later works, remarks,

> . . . just as the gospel accounts stress the corporeality of Jesus' risen body, and its identity with the body in which he preached and underwent death, so Augustine is at pains to oppose any interpretation of the Christian hope that would turn to allegory the promise that our bodies will rise again.[35]

But this increasing emphasis on the importance of our physical embodiment did not prompt Augustine to openly reject the relatively Platonic idea of the human soul as a thing capable of sustaining mental life between the death and resurrection of an

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[33] (Teske 2001) p. 116

[34] (Kent 2001) p. 210

[35] (Daley 1991) p. 143

individual physical embodiment. Though the vagueness of his comments regarding the state of souls between death and resurrection appears intentional, Augustine also supported the Latin tradition of praying for the dead, arguing that the souls of the 'dead in Christ' remain (with the Church) in time awaiting the final consummation of Christ's kingdom rather than departing into eternity individually upon death.[36]

D. Aquinas

Something very close to Augustine's metaphysical anthropology continued to be considered the orthodox position for many centuries after his death. Though challengers did arise from time to time, the need to re-think his relatively dualistic position never presented itself with enough force to motivate change—at least not until the writings of Aristotle were re-discovered in the years leading up to the outstanding intellectual career of St. Thomas Aquinas. While Aquinas' work is notoriously complex, and a full examination of his views (even if we were to narrow our focus to his views on the body and soul) would be a lengthy thesis on its own, there are a few things that we must mention concerning the way in which his work changed the orthodox conception of the metaphysical anthropology. The most important contribution that Aquinas and his thirteenth century colleagues made to our subject is that he brought some of Aristotle's understanding to bear on this issue.

Aquinas' tendency to follow Aristotle rather than Plato in his understanding of the nature of the soul led him to think of a living human being as a body and soul which are essentially united, rather than a soul which happens to be united with a body throughout life. This position is perhaps most graphically illustrated by one of Aquinas' most famous statement related to metaphysical anthropology, made in reference to 1 Corinthians 15: 'anima mea non est ego'.[37]

For Aquinas, as for Aristotle, the soul is essentially the form of a living body. Though this way of thinking about humanity was considerably less dualistic than the Augustinian metaphysical anthropology that had been considered the norm for centuries, Aquinas' thinking along these lines proved highly influential.[38] The extent

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[36] (Daley 1991) pp. 136-139

[37] As quoted in (Bynum 1995) p. 257 n. 114 among other sources.

[38] As Caroline Walker Bynum writes in her (Bynum 1995), 'No theologian in the mid-thirteenth century held, as Hugh of St. Victor and Robert of Melun had done in the early twelfth, that the person is a soul using a body. All conceived of person as, by definition, a psychosomatic whole.' (p. 256)

to which Aquinas' anthropological holism replaced the older, relatively dualistic Augustinian perspective can be seen in the pronouncement of the council of Vienne, held in 1311-12, which states, ' . . . we reject as erroneous and contrary to the truth of the catholic faith every doctrine or proposition rashly asserting that the substance of the rational or intellectual soul is not of itself and essentially the form of the human body, or casting doubt on this matter'.[39]

Though Aquinas broke from the Aristotelian tradition by positing the immortality of the individuated soul (Aristotle taught that no form can continue to exist apart from the matter in which it is instantiated), Aquinas' emphasis on the *unity* of the body and soul cannot be denied.[40] This understanding of the human person as an essential unity of material body and formal soul also transformed the way theologians thought of the continuity pertaining to the corruptible body which dies and the incorruptible, glorified body which will be raised at the end of the world; for whereas earlier thinkers tended to struggle almost exclusively with some empirically verifiable form of material continuity, theologians after Aquinas tended to rely more heavily on the 'formal' continuity which asserts that sameness of matter is dictated not by material continuity but by sameness of form.[41]

As we shall soon see, the legacy of Aquinas' metaphysical anthropology has been somewhat muted by the tremendous impact of the Protestant Reformation, though contemporary interest in his work in this area appears to be on the rise.[42]

IV. The Reformation

Though it should not be considered a major cause for the Protestant Reformation, it is of some interest to our study that metaphysical anthropology, particularly as it relates to the doctrine of the immortality of the soul, *did* enter into the sixteenth century theological debate. The reason that this doctrine came up for discussion

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[39] Decree 1, paragraph 2, quoted from http://www.piar.hu/councils/ecum15.htm

[40] For more on Aquinas' break from the Aristotelian tradition, see pp. 217ff of (Greshake and Kremer 1986) (esp. p. 225).

[41] For more on the distinction between material and formal continuity, see (Bynum 1995) especially pp. 259-264.

[42] For an excellent, recent exposition of Aquinas' philosophy of mind, see (Kretzmann 1993). For more recent contributions that deal explicitly with Aquinas' metaphysical anthropology, see (Leftow 2001) and especially (Klima 2002).

during the Reformation can be traced back to the Decree of Leo X, issued in 1513, in conjunction with the fifth Lateran Council. This bull (*Apostolici Regiminis*) did little more than restate the official Church doctrine on the soul as it was received from Aquinas, stating that 'the soul is not only really and essentially the form of the human body, but is also immortal; and the number of souls has been and is to be multiplied according as the number of bodies is multiplied'.[43]

While this statement may seem quite uncontroversial considering what has just been said regarding the teachings of Aquinas and his influence, we must remember that there were also complex ecclesiological issues involved in anything the Church did at this point in time. Tensions within the Church of 1513 were very near the breaking point. When questions regarding the authority of the Pope and Church councils began to be raised (most explicitly by Martin Luther from 1517 onwards), this doctrine, having been so recently re-stated by papal bull, was one of the many that came under scrutiny.

A. Martin Luther

When, on 15 June, 1520, Pope Leo X issued the bull *Exsurge Domine*, calling on Luther to recant forty-one different points from his writing that the Church found objectionable, Luther offered his fiery response *Defence and Explanation of All the Articles of Dr. Martin Luther Which Were Unjustly Condemned by the Roman Bull.* Though we need not burden ourselves with a detailed examination of this inflammatory work, we should mention that in his defence of the 27th article, Luther makes the following remark concerning *Apostolici Regiminis*:

> Hence the experts in Rome have recently pronounced a holy decree which establishes that the soul of man is immortal, acting as if we did not say in our common Creed 'I believe in the life everlasting'. And, with the assistance of the mastermind Aristotle, they decreed further that the soul is 'essentially the form of the human body,' and many other splendid articles of a similar nature. These decrees are, indeed, most appropriate to the papal church, for they make it possible for them to hold fast to the human dreams and the doctrines of devils while they trample upon and destroy faith and the teaching of Christ.[44]

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[43] Quoted from 'Man' in the Catholic Encyclopaedia Online (http://www.newadvent.org/cathen/09580c.htm)

[44] See volume 32, pp. 77-78 of (Luther 1958).

It is important that we realise that Luther is not here calling the main point of the doctrine into question. His objection seems to be to the language used to assert the doctrine of spiritual immortality rather than the teaching itself. After all, Luther reasons, if our creeds and the Scriptures both teach eternal life through universal bodily resurrection, why should anyone feel the need to supplement this teaching with the language of the philosophers concerning the immortality of the soul? We see this attitude, favouring the doctrine of eternal life through resurrection rather than spiritual immortality, even more clearly in Luther's 1529 treatise *On War Against the Turk*. There, arguing that 'Mohammed is a destroyer of our Lord Christ and his kingdom', he points out one aspect of Islamic theology that may actually be *more* biblical than that of official Church teaching. He says:

> And the Turks perform the same holy works as some of our monks and hope for everlasting life at the Judgement Day, for, holy people that they are, they believe in the resurrection of the dead, though few of the papists believe in it.[45]

As if these statements were not enough to cause his followers to question the orthodox doctrine of the immortality of the soul, Luther's later informal talks with his students, published as *Tabletalk*, were even more explicit. For example, in September of 1540, when asked whether he believed in Plato's doctrine of the immortality of the soul, Luther responded:

> No indeed! . . . How can Plato speak about this matter? I believe that God made the whole man from the dust of the earth, for the text [Gen. 2:7] says that God made man. 'Man' doesn't mean the body alone but always means the body and the soul, and accordingly the Scriptures call the soul 'the breath of life' [Gen. 2:7]. Since the soul was in that instance made with the body, so when a child is born today the soul is created together with the body, contrary to Plato. Although all others disagree, it's my opinion that the soul isn't added from the outside but is created out of the matter of the semen . . .[46]

And again, in the winter of 1542-1543, Luther was asked what happens to the soul immediately after a person dies. After a brief reference to the paradox presented to Christians by Scriptural references that seem to suggest that Christians, upon death, go immediately to be with Christ in paradise, Luther said:

> Christians, both those who are dead and those who are living, await a resurrection of the dead. Abraham lives too. God is God of the

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[45] Volume 46, p. 177 (Luther 1958)

[46] (Luther 1958) Volume 54 p. 401

> living. Now, if one should say that Abraham's soul lives with God but his body is dead, this distinction is rubbish. I will attack it. One must say, 'The whole Abraham, the whole man, shall live.' The other way you tear off a part of Abraham and say, 'It lives.' This is the way the philosophers speak: 'Afterward the soul departed from its domicile,' etc. That would be a silly soul if it were in heaven and desired its body![47]

Unfortunately for the many common parishioners who were affected by their teaching, however, there were some whose reaction against the orthodox teaching on the soul was much stronger than Luther's. Many of the more radical Anabaptists taught that the Roman 'spiritualising' of the Church had neglected the reality of the kingdom of God. Some of these radicals began teaching that the kingdom was in fact a physical kingdom, and that Christ was returning very soon—and so they began to build physical kingdoms to usher in the reign of Christ. The most notorious example of how this teaching affected the common people can be found in the story of Münster, Germany.

In February of 1534, Jan Matthys, an Anabaptist leader, took over the city of Münster, baptising every citizen by force and declaring the city 'The New Jerusalem'. He made the possession of private property illegal and ordered that all books in the city be burned. When the Catholic bishop whom Matthys had forced out of the town raised an army and returned to the city, Matthys attacked the army with only a handful of men and was quickly cut down. Unfortunately, however, the bishop's army was not immediately successful in taking the city, and John of Leiden, Matthys' Anabaptist successor, was every bit as radical. After stripping naked and running through the streets declaring that the end of the world was near, John of Leiden fell into a three-day trance. When he awoke, he declared himself the 'Universal King of Righteousness'—daring anyone to oppose him. He declared polygamy legal and immediately took fifteen wives for himself (including the beautiful widow of Jan Matthys). Before the armies besieging the city were able to overthrow it, countless atrocities had been committed against the people.

B. John Calvin

Because of events such as these, radical Protestant grass-roots movements came to be associated with sedition, insanity and violence. Naturally, less radical leaders of

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[47] (Luther 1958) Volume 54 p. 446-7

Protestant churches were eager to distance themselves from their much too radical brethren, and a whole series of tracts were written by 'mainstream' reformers against what they saw as the lunatic fringe of their movement. The most important of these tracts for our purposes is John Calvin's *Psychopannacia*—written to refute the radical physicalist Anabaptist doctrine known as 'soul sleep'. This tract, the first of Calvin's theological publications, was written in 1534—the very year that Matthys took over Münster.

As he says in his preface, one of the main motivations for Calvin's work was to put down some of the divisive teachings that abounded on the outer fringes of the reformation movement. We see how seriously Calvin took the threat of division in the following lines:

> And do we still wonder at the many sects among those who had at first given in their adherence to the gospel and the reviving word? I, for my part, am terrified by the dreadful denunciation, 'The kingdom of God shall be taken from you, and given to a nation bringing forth the fruits thereof.' (Matthew 21:43)[48]

But it is not only Calvin's effort to re-establish some form of orthodoxy that is so important to us here. After all, as we shall see, Calvin's understanding of the soul was to introduce yet another major change to the way that the Church—particularly the evangelical Protestant Church—understands metaphysical anthropology. Most importantly, we should note that the unorthodox view Calvin set out in *Psychopannacia* to refute shows some strong similarities to the view that we have seen espoused by Luther. Further, the position that Calvin defends as orthodox is more like the older, Platonic understanding of the soul as exposited in the early works of Augustine than the Aristotelian modifications to the ancient view suggested by Aquinas. We see this right from the beginning of Calvin's work in what appears to be his thesis paragraph:

> Our controversy, then, relapses to The Human Soul. Some, while admitting it to have a real existence, imagine that it sleeps in a state of insensibility from Death to The Judgment-day, when it will awake from its sleep; while others will sooner admit anything than its real existence, maintaining that it is merely a vital power which is derived from arterial spirit on the action of the lungs, and being unable to exist without body, perishes along with the body, and vanishes away and becomes evanescent till the period when the whole man shall be raised again. We, on the other hand, maintain both that it is a substance, and

[48] (Calvin 1958) p. 418

> after the death of the body truly lives, being endued both with sense and understanding.[49]

Not only does Calvin return to a Platonic idea of the soul as a rational substance which is capable of existence apart from the body, he also follows Plato in his interpretation of scriptural references to humanity as the image of God. Because he claims that it is the spirit that reflects the divine nature rather than the body,[50] Calvin also has a comparatively low estimation of the value of our bodily resurrection.[51] Calvin's dependence on the Platonic notion of immortality goes so deep that he even seems to forsake some of his own convictions on the authority of Scripture, as we see in his commentary on Romans. For while Paul clearly says in Romans 8:23 that our bodily resurrection is an essential part of our adoption as children of God,[52] Calvin prefers his own estimation of the spiritual worth of the human body to Paul's. While Calvin *does* see our bodily resurrection as part of the promise to which we are heirs by our union with Christ, he *does not* see the redemption of our bodies as part of that adoption process. While a fuller discussion of this point would take us into much more detail regarding Calvin's deep concern that our justification be seen as an instantaneous, legal pronouncement rather than an ongoing process, it is more to the

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[49] (Calvin 1958) pp. 419-20

[50] On p. 422 of (Calvin 1958) we read: 'And we will begin with man's creation, wherein we shall see of what nature he was made at first. The Sacred History tells us (Genesis1:26) of the purpose of God, before man was created, to make him "after his own image and likeness." These expressions cannot possibly be understood of his body, in which, though the wonderful work of God appears more than in all other creatures, his image nowhere shines forth. For who is it that speaks thus "Let us make man in our own image and likeness?" God himself, who is a Spirit, and cannot be represented by any bodily shape. But as a bodily image, which exhibits the external face, ought to express to the life all the traits and features, that thus the statue or picture may give an idea of all that may be seen in the original, so this image of God must, by its likeness, implant some knowledge of God in our minds. . . Here, however, I do not insist, lest it should become a ground of quarrel. All I wish to obtain is, that the image itself is separate from the flesh. . . let us hold the image of God in man to be that which can only have its seat in the spirit.'

[51] The word 'because' here is used rather loosely—for there were obviously many other (possibly stronger) motivations for Calvin taking the position on the bodily resurrection that he did. Furthermore, we should also emphasise the importance of the word 'comparatively' here, for Calvin *did* assert the bodily resurrection quite strongly, even in the face of opposition. It also appears that he came to value this doctrine more highly throughout his life, as we see from the fact that one of the few changes he made to his *Institutes* between 1545 and 1550 was the addition of three new sections on the bodily resurrection (see p. 117 of (Wendel 1963)). In relying so heavily on the doctrine of the immortality of the soul, however, it is indisputable that he placed *less* emphasis on the body than did Luther—for, as we have seen, Luther did not consider the idea that a body could die while a soul lives meaningful.

[52] Ross MacKenzie's English translation of Calvin's rendering of this text reads as follows: 'And not only so, but ourselves also, which have the firstfruits of the Spirit, even we ourselves groan within ourselves, waiting for our adoption, to wit, the redemption of our body.' (Calvin 1995)

point of our present investigation simply to observe Calvin's disagreement with Paul as to the importance of our bodily resurrection. We see this disagreement in Calvin's commentary on this verse, which says:

> Paul improperly refers here to our adoption as the enjoyment of the inheritance into which we have been adopted. He has, however, very good reason for doing so, for he means that the eternal decree of God would be void unless the promised resurrection, which is the effect of that decree, were also certain. By this decree God has chosen us as His sons before the foundation of the world, He bears witness to us concerning it by the Gospel, and He seals the faith of it on our hearts by His Spirit . . . The phrase which he presently adds, *the redemption of our body,* has the same reference. The price for our redemption was paid by Christ, but in such a way that death still holds us in its chains, and indeed, that we shall carry it within us. It follows from this that the sacrifice of the death of Christ would be unfruitful and wasted, unless its fruit were to appear in our heavenly renewal.[53]

C. Philip Melanchthon

Philip Melanchthon, who was so often a moderating voice of unity between the different mainstream teachings of late sixteenth century Christianity, followed Luther in calling our attention at important points to the resurrection of the body rather than the immortality of the soul, but he shared Calvin's concern that the radical teachings of the Anabaptists be dispelled. Though he does not mention any conviction that the soul is immortal in his great systematic theology, *Loci Communes,*[54] neither does he leave the spiritual nature of the kingdom of God implicit. In his section on the resurrection of the body we read:

> Because these sentences clearly attest that before the resurrection and the Last Day the Church is to suffer tribulation and persecution, and after the resurrection, in the renewal of all creation, heaven and earth, is to be glorified, the prophets obviously testify that the kingdom of Christ on earth *will not be a physical kingdom*, as the Jews and Anabaptists fictitiously imagine.[55]

But Melanchthon also does not fail to recognise the fact that the Bible is much more concerned with our physical bodies than Plato was. As Melanchthon interpreted the Bible, it teaches that our bodies, far from temporary prisons, will be an integral part

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[53] (Calvin 1995) For an excellent example of the more moderate way in which modern Calvinists have treated this passage, c.f. (Murray 1967) pp. 305-308.

[54] The first systematic theology of the Protestant Reformation

[55] (Melanchthon 1965) p. 282

of our life as part of the fully realised kingdom of God. We see Melanchthon's positive attitude towards the body most explicitly in his interpretation of Job 19:25ff,[56] also included in his *Loci Communes* comments on the resurrection of the body:

> This is a very beautiful passage announcing that we in this flesh and in this body, which we now have, will be resurrected, and that our body and entire nature will be renewed, as St. Paul teaches. The same passage says that the nature of eternal life will be knowledge, bright and clear, of God and all creatures.[57]

Indeed, though Melanchthon emphasises the bodily resurrection as the Christian hope for eternal life more strongly than Calvin, at the end of the day, he seems to have believed, like Calvin, that the soul is an independent substance, capable of conscious existence without the body. We see this opinion of Melanchthon most clearly expressed in his treatise titled *On the Soul,*[58] where he says:

> And the pagan writers expressly say that they are convinced that the souls of men survive after death, since it is most certain that many ghosts wander about everywhere, and are often heard and seen, and often even talk with men. And examples need not be taken just from books. I have seen some myself, and known many trustworthy men who affirmed that they had not only seen ghosts but have even spoken with them at length. However they thought that most of them were the souls of the ancients.[59]

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[56] 'For I know that my Redeemer lives, and at last he will stand upon the earth; and after my skin has been thus destroyed, then from my flesh I shall see God, whom I shall see on my side, and my eyes shall behold, and not another.'

[57] (Melanchthon 1965) p. 283

[58] It may also be of some interest to our study that in this work, Melanchthon also works out a system of interaction between mind and body that is very similar to what has come to be known as 'Occasionalism', having God or some spirits mediate between our minds and our bodies. We see how closely Melanchthon came to this view, as well as his emphasis on the brain as the organ of understanding, in the following passage:

> 'The common sense perceives the images offered by the external senses, and discerns the objects of the individual senses. Then another force, that of composing and dividing, draws one thing from another as it thinks and judges. The third retains the memory of objects and records them. These now are their organs. The anterior part of the twin cavity, or the ventricles, of the brain, is the organ of common sense. Because just as mirrors, so in the organs of the outer senses do images flash, shaken spirits assume their likeness and transport them to the brain. As the tongue forms an articulated voice, so does the brain, impelled by the spirits, form with its own amazing sort of motion, as if arranging the spirits, more and more images.' (Melanchthon 1988) p. 240

[59] (Melanchthon 1988) p. 286-7

Though the resurrection of the body has always been a central teaching of mainstream Christianity, we have seen that Church doctrine with regard to metaphysical anthropology was one of the many features of orthodoxy which came under scrutiny during the Protestant Reformation. In the years following the initial controversy, however, a general consensus emerged in the Reformed Church with regard to metaphysical anthropology. As we see in *The Westminster Confession of Faith* (one of the most important doctrinal statements for the contemporary evangelical reformed church), by the mid-seventeenth century the Reformed consensus had returned to a Pre-Thomistic substance view of the soul.[60] In chapter 32, section one of that confession, we read:

> The bodies of men, after death, return to dust, and see corruption; but their souls (which neither die nor sleep), having an immortal subsistence, immediately return to God who gave them. The souls of the righteous, being then made perfect in holiness, are received into the highest heavens, where they behold the face of God in light and glory, waiting for the full redemption of their bodies; and the souls of the wicked are cast into hell, where they remain in torments and utter darkness, reserved to the judgement of the great day. Besides these two places for souls separated from their bodies, the Scripture acknowledgeth none.[61]

Though this position still represents the majority opinion with regard to metaphysical anthropology in most contemporary evangelical Protestant churches, we must also note that considerable change has taken place over the past four and a half centuries with regard to the majority opinion among the intellectual status quo. In our next two sections, we will therefore move away from the spiritually focused metaphysical anthropologies of the great theologians and summarise some of the most important

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[60] *The Scots Confession*, written almost a century earlier (1560), is one of the earliest indications of a large-scale return to the pre-Thomistic view in Britain. Its explanation of the doctrine of the immortality of souls (chapter 17) suggests at least some form of conscious existence between death and resurrection. This section of the confession reads as follows:

> The chosen departed are in peace, and rest from their labours; not that they sleep and are lost in oblivion as some fanatics hold, for they are delivered from all fear and torment, and all the temptations to which we and all God's chosen are subject in this life, and because of which we are called the Kirk militant. On the other hand, the reprobate and unfaithful departed have anguish, torment, and pain which cannot be expressed. Neither the one nor the other is in such sleep that they feel no joy or torment, as is testified by Christ's parable in St. Luke XVI, his words to the thief, and the words of the souls crying under the altar, 'O Lord, thou that art righteous and just, how long shalt thou not revenge our blood upon those that dwell in the earth?' (quoted from http://www.creeds.net/Scots/scots.htm#Immortality).

[61] Quoted from http://www.creeds.net/Westminster/c32.htm

shifts in modern metaphysical anthropology—which, as we shall soon see, tended to be more interested in the life of the mind than the life of the soul; and more interested in theoretical reasoning than textual evidence.

V. The Philosophical Foundation for Modern Psychology

Though René Descartes is commonly thought of in modern philosophy of mind as the chief defender of radical anthropological dualism, it should be clear from our historical study that this kind of dualism did not originate with him. After all, he and the Westminster Divines were contemporaries.

What Descartes does add to our discussion, however, is the recognition of a new epistemic authority. Whereas Plato's dualism is grounded on the supposition that human beings can know some unchanging truths, Descartes attempted to justify the very same kind of dualism in the face of radical seventeenth century scepticism. In his famous 'Meditations', he makes it his goal to doubt everything that can possibly be doubted in search of some solid, indubitable foundation upon which to build his thinking. He finds this indubitable foundation in the axiom, made almost cliché by its fame, 'I think, therefore I am.' From this indubitable foundation—which is essentially the assertion of the existence of the doubter's own *mental* life—Descartes argues for the existence of God, the physical world, and (eventually) the existence of the doubter's body as part of that physical world.

The most important thing for us to recognise here is that while the existence of our mental lives (and the requisite logical realm in which transcendental rationalisations are trustworthy) is indubitable for Descartes, the sensible world of physical objects comes only at the end of a comparatively tenuous line of reasoning. And so we see that while their starting points represent radically different levels of epistemic optimism, Plato and Descartes both present us with a radically dualistic metaphysical anthropology grounded in a wider epistemological dualism. Viewed in its historical context, therefore, we see that Descartes' contribution to metaphysical anthropology is relatively slight, though he is commonly given most of the credit (or blame!) for the kind of dualistic thinking that (as we will see) so swiftly fell out of fashion around the middle of the twentieth century.

But Descartes' new epistemic foundation, so different from the doctrinal presuppositions of the Christian hegemony (many of which were left over from its notoriously logocentric Greek predecessor) opened the door for an entirely new way

of *looking at* metaphysical anthropology, even if it did not directly challenge the orthodox ontological presuppositions themselves.

It was not long, however, before the new perspective Descartes introduced evolved into some fairly radical deviations from his new form of epistemological dualism. In his seminal essay 'An Essay Concerning Human Understanding'[62] for example, John Locke turned the Cartesian epistemic structure on its head, arguing that all of our ideas come, whether directly or indirectly, from our senses. This way of thinking made our minds inextricably dependent on our bodies. Bishop Berkeley tried to reverse this trend of increasing attention to the physical world relative to the higher, mental realm, arguing that since being is dependent on perception,[63] the only aspect of reality that we can justifiably believe in (according to the strictest logical requirements) is the realm of mental activity (where perception takes place). David Hume, on the other hand, used almost the same reasoning to show that *all* our ordinary hypothesising—particularly in the realm of metaphysical anthropology (whether treating our selves as minds or as bodies)—is only very tenuously grounded. Belief in minds or souls, as well as belief in unified human bodies turns out, by Hume's advances on the non-dogmatic Cartesian system, to be questionable. Hume argued that the only rationally justified post-Cartesian metaphysical anthropology understands a human being as nothing more than a 'bundle of percepts'.

While Immanuel Kant struggled nobly to awaken the continental philosophical world from the dogmatic slumber of Cartesian rationalism without falling into the radical empiricism of Locke, Berkeley, and Hume, the alternative he presented still left epistemological questions with regard to metaphysical anthropology. He acknowledged the strength of Hume's reasoning, yet saw a glimmer of hope provided by a new epistemological method.

Kant's new epistemological method grew out of his appreciation for both of the two streams that had, by his time, developed within the Cartesian tradition. Those two streams consisted of the British empiricists who had followed Locke on the one hand

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[62] First published in 1690

[63] In his treatise 'The Principles of Human Knowledge' (1710), Berkeley famously argued that to be is to perceive or to be perceived—a thesis which flows naturally from Locke's development of Descartes' ideas.

and rationalists from the European continent who had been maintaining Descartes' original emphasis on the primacy of the abstract 'thinking thing' on the other.

Kant said, on the one hand, that the empiricists had rightly recognised that concepts without percepts were empty. Our minds come to us as 'blank slates', so we can only have ideas after we have experience. On the other hand, however, Kant taught that the continental rationalists had rightly recognised that percepts without concepts were blind. After all, without a mind to make sense of it all, life would be nothing but a stream of absolutely meaningless perceptions, so we can have ideas only if we first have rational minds.

Building on these two overarching morals of post-Cartesian philosophy, Kant suggested a new epistemological foundation. He proposed that the best way to do metaphysical anthropology (and metaphysics more broadly as well, for that matter) is to think about the kind of knowledge that we all have and then extrapolate from that back to what must have been the case for us to have got that kind of knowledge. At least to this extent, we can see that Kant was a thoroughly Cartesian rationalist. But Kant went further than Descartes in discussing the necessity of input from the outside world, arguing that all our ideas about the world must be the result of interaction between that world and the extremely complex structure by which we exercise the art of sensory interpretation.

Though we could go on for pages discussing how Kant's new epistemological methodology worked and where it got him, the most important thing for our present purpose is to evaluate what impact his work left on the intellectual establishment—particularly as it relates to Christian metaphysical anthropology. To do this, we must say a few words as to how Kant's epistemology changed the way we think about the relative authority of sensation and reason, and, by extension, our bodies and our minds.

At the end of the day, Kant, like Plato and Descartes[64] before him, presents us with an extensive epistemological dualism. The only large-scale difference is that Kant thought much more highly of empirical evidence. While Plato and Descartes both said that our belief in the external world is founded only on our more certain belief in ourselves as rational beings independently of any supposed 'world of appearances',

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[64] The Christian Church should not be listed here with Plato, Descartes, and Kant. Christians have always recognised Scripture as an epistemic authority in addition to pure reason.

Kant argued that the only objects of pure reason are those concepts that have been 'filled' with data from our senses. So while Plato and Descartes taught that we could be absolutely sure of our selves-as-minds and only deduce the existence of our selves-as-bodies, Kant taught that it is the external world, and consequently, our selves-as-bodies, that has epistemic priority. For Kant, the epistemic priority of belief in our bodies is as close to objective truth as we can get. Our selves-as-minds, like all things-in-themselves, cannot make it into our noetic structures without the threat of being distorted in the process, so they can never be objects of *pure* reason. For Kant, therefore, our knowledge of our selves-as-minds can be known only through transcendental deduction—and as it turns out, the results of that transcendental deduction are much less substantial than Kant's predecessors had imagined.

The reason that Kant's epistemological dualism, grounded upon the thinking of Descartes and the Empiricists, is so important for our study is that in saying that we can never know our selves-as-minds as clearly as we can know our selves-as-bodies, he was calling for a revolution in the way that metaphysical anthropology is done. And in doing so, he gave new hope for the project of diffusing the mystery of interaction between mind and body.[65]

VI. The Rise of Modern Psychology

While some would argue that modern, scientific psychology began in 1879 when Wilhelm Wundt established the first psychology laboratory in Leipzig, Germany, the idea of studying the mind through empirical observations of the body, as we have just seen, goes back at least as far as Immanuel Kant. But there can be no doubt that taking the mind seriously as a subject of modern scientific study became much more intellectually fashionable as the nineteenth century drew to a close.

For centuries, the scientific method had been yielding astonishing results in the continuing effort to understand the natural world. Could it be that the same scientific method could be used in the effort to understand the mind? Could it be that Kant's transcendental method was not the only way to extrapolate knowledge of our selves-

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[65] We have, of course, treated the philosophical foundations of modern psychology only very schematically. If space allowed, we would need to spend much more time justifying the present interpretation of this phase in intellectual history. To even begin that project, however, would drastically alter the focus of this volume.

as-minds? At the close of the nineteenth century, it was becoming increasingly popular to offer positive answers to these questions. One thing that was *not* agreed upon, however, was *how* these increasingly popular ideas were to be put into practice.

For our present purposes, William James is the most important of the early empirical psychologists. Not only was James firmly rooted in the Anglo/American philosophical tradition, but he also recognised the importance of metaphysical anthropology—particularly as it sheds light on the relationship between the body, which could be observed from the third-person perspective, and the mind, to which the individual has exclusive access.

In contrast to the early psychologists who were concerned almost entirely with the attempt to break the conscious mind down into its supposed constituent parts (i.e. the so-called 'synthetic method'), James focused on the idea that experience comes to us as an essential unity.[66] Interestingly enough, James says that one of the illusions to which the synthetic method exposes us is a kind of dualism with regard to metaphysical anthropology. The synthetic method, according to James, supposes that experience is composed of both content and consciousness. We saw an early form of this synthetic method in our brief evaluation of Kant's epistemology. After all, if concepts without percepts are empty and percepts without concepts are blind, we must admit that our experience is a compound of both percepts (the content) and concepts (our consciousness). James' radical suggestion, however, is that to attempt to divide our experience into two parts is not, as the neo-Kantians believe, to simplify our study, but to confuse it. He says, 'Experience, I believe, has no such inner duplicity; and the separation of it into consciousness and content comes, not by

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[66] As he explains in his 1892 work, *Psychology: A Briefer Course*:

> The order of our study must be analytic. We are now prepared to begin the introspective study of the adult consciousness itself. Most books adopt the so-called synthetic method. Starting with 'simple ideas of sensation', and regarding these as so many atoms, they proceed to build up the higher states of mind out of their 'association', 'integration', or 'fusion', as houses are built by the agglutination of bricks. This has the didactic advantages which the synthetic method usually has. But it commits one beforehand to the very questionable theory that our higher states of consciousness are compounds of units; and instead of starting with what the reader directly knows, namely his total concrete states of mind, it starts with a set of supposed 'simple ideas' with which he has no immediate acquaintance at all, and concerning whose alleged interaction he is much at the mercy of any plausible phrase. On every ground, then, the method of advancing from the simple to the compound exposes us to illusion. (James 1892) p. 151

way of subtraction, but by way of addition . . . '.[67] He further reasons that because of the impact of Kant's epistemology on the history of philosophy, it no longer makes sense to posit any quasi-substantial ego or 'consciousness' that is the subject of experience. It would make more sense, James argues, to give up the idea of mental substance altogether and recognise the subject as a *function* rather than a *thing*.

It is important, however, that we not oversimplify James' position. In calling for us to give up the idea of mental substance, he was not commending any form of simple materialism. In fact, James was not a materialist at all, for he did not take *matter* as the basic building block of all intelligible reality, but *experience*. In 'Does "Consciousness" Exist?', he says:

> My thesis is that if we start with the supposition that there is only one primal stuff or material in the world, a stuff of which everything is composed, and if we call that stuff 'pure experience', then knowing can easily be explained as a particular sort of relation towards one another into which portions of pure experience may enter. The relation itself is a part of pure experience; one of its 'terms' becomes the subject or bearer of the knowledge, the knower,[68] the other becomes the object known.[69]

While talking in terms of 'portions' of 'primal stuff' may seem paradoxical, James does not leave his readers to sort out the madness for themselves. Indeed, the very next sentence in the passage just quoted reads, 'This will need much explanation before it can be understood.' Whether or not James was successful in putting together a complete, non-dualist post-Kantian metaphysical anthropology, however, will have to be discussed elsewhere, for the depth of James' historical influence was severely limited by the changing mores of the early twentieth century intellectual establishment. After all, in the early 1900's *science*, not *philosophy,* was thought to be the way to truth—and science is conducted in the laboratory, not the armchair.

The behaviourists who immediately succeeded James in the young field of empirical psychology shared James' disdain for the synthetic method. They did not, however, share James' appetite for trying to choke down human consciousness as a whole. What the young science of psychology needed, they thought, were bite-sized pieces.

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[67] (James 1904) p. 480 (italics his)

[68] James' footnote: 'In my *Psychology* I have tried to show that we need no knower other than the "passing thought".' [See (James 1890), vol. 1, pp. 38ff]

[69] (James 1904) p. 478

They knew that the synthetic method was flawed, and they admired the seemingly objective third-person perspective of the natural sciences, so it was quite natural for the behaviourists to judge the bite-sized conscious activity uncovered by Pavlov in lesser animals to be the perfect nourishment for their rapidly growing body of knowledge.[70] The behaviourists, therefore, began to study these more manageable subjects almost exclusively. This new approach to psychology gave the added benefit of allowing the psychologists to reject James' 'subjective' method of philosophical speculation.

In fact, there were so many perceived benefits associated with the new method introduced by the behaviourists that it staged a sweeping revolution in the way psychologists and philosophers alike thought about metaphysical anthropology. Evolutionary theory, the rise of experimental science, and even the philosophical fashion of logical positivism all seemed to be lending their support to the idea that the only way to make sense of human beings is to limit inquiry to observable human behaviour. As it turned out, the only feature of human existence that proved impossible for the behaviourists to explain was that portion of mental activity that is not discernibly portrayed through behaviour. But in mentioning this shortcoming, we are already anticipating behaviourism's philosophical successor with regard to metaphysical anthropology.[71] We will discuss this successor, which has come to be known as either 'identity theory' or 'central state materialism', in our next chapter. For now, however, it would be most appropriate to sum up our brief investigation of the rise of modern psychology.

In this section, we have seen that at least by the close of the nineteenth century, intellectual appetite for dualism with regard to metaphysical anthropology was rapidly waning. The history of twentieth century philosophy shows us that this appetite for dualism continued to wane for at least the next several decades—so that when, in 1949, Gilbert Ryle described 'the official doctrine' as 'Descartes' Myth', and even 'the dogma of the Ghost in the Machine', his book[72] was instantly regarded

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[70] According to William Lyons's timeline of mental philosophy, Pavlov first published the results of his famous dog experiments in 1906 (Lyons 1995).

[71] By 'successor' here, we do not mean 'the next idea to be as universally accepted in Anglo/American mental philosophy', because, as we shall see, there has yet to be any such successor. By 'successor', we mean the position that maintained the closest ties to the central aims of behaviourism even as behaviourism itself became less and less popular.

[72] (Ryle 1949)

as a philosophical classic. But if Descartes' metaphysical anthropology is indeed mythological—if our physical bodies are not inhabited by a non-material mind or soul—does that mean that we are justified in saying that we are *nothing* but our minds or *nothing* but our physical bodies? Is there any suitable replacement for the doctrine of the 'ghost in the machine'?

As we shall see in our next chapter, debates over these questions raged throughout the career of Donald M. MacKay. Though to this day, the evangelical, Protestant church has yet to fully recognise any advance in our understanding of metaphysical anthropology since the completion of the Westminster Confession of faith (just three years before the death of René Descartes), it is our hope that here in the opening decade of the twenty-first century, as an increasing number of Christian philosophers and systematic theologians are recognising the need for advancement in this area, the scientific and philosophical work of Donald M. MacKay will receive due attention. It is for this reason that we have set out to exposit his position on this issue. But before we get into the details of his empirical, philosophical, and theological metaphysical anthropology, it may be helpful to provide some biographical background.

Chapter 2: The Life and Times of Donald M. MacKay

Donald M. MacKay, Son of Henry and Janet McArty MacKay, was born in 1922 in Lybster, Scotland. He was raised, along with his three younger sisters,[73] in Wick, Scotland—a small town on the Eastern Scottish coast, just North of the Morray Firth. From a very early age, he had a keen interest in electronics.[74] Doubtless it was little surprise, therefore, when, in the early 1940's, he was selected from among the undergraduate physics students at the University of St. Andrews to contribute to the war effort by helping the British Admiralty develop the capabilities of its ship-based radar.

I. Early Civilian Career (1946-1951)

Though, for obvious reasons, relatively little is known about MacKay's work for the British Admiralty, he did publish several unclassified reports during those years, all of which deal with the fine points of electronic engineering. This detailed interest in electronics led to his appointment, in 1946, to a position as lecturer in physics at King's College, University of London. Also in 1946, MacKay produced the first of many papers for civilian academic publication.[75]

Between 1947 and 1949, MacKay published five technical papers, all dealing with various theoretical limitations of the potentials of high-speed computing.[76] Though it is quite possible that MacKay's academic interest might have remained narrowly focused on electrical engineering if he had lived in any other time, as it happened, British and American philosophers in the middle of the twentieth century were too interested in the metaphysical implications of his work to leave him to his own devices.

A. The Slow Move Towards Philosophy Begins

We saw in our last chapter that philosophers and theologians have struggled to understand the relationship between our minds and our bodies for millennia, and in

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[73] See picture #1.

[74] See Picture #2.

[75] (MacKay 1946)

[76] (MacKay 1947; MacKay 1948; MacKay 1949b; MacKay 1949a; MacKay and Deeley 1949)

the late 1940's and early 1950's, this struggle greatly intensified. After all, the common assumption, from Plato on through to modern times was that, while our bodies may be thought of as physical mechanisms, mental activity must always be recognised as qualitatively different from the activity of any merely physical entity.

While we have seen that this common assumption had been challenged several times before MacKay's day, (especially by the intellectual tradition of the British empiricists), the challengers had only sophisticated philosophical arguments to back up their theories, whereas the establishment had the strong intuitive attraction of historical tradition. Towards the middle of the twentieth century, however, all this changed. For just as behaviourism was reaching its peak—pushing the idea that there was no radical, qualitative difference between the mental lives of animals and those of human beings, the first fully automated calculating machines were built[77]. Could it be that there was likewise no radical, qualitative difference between human mental lives and those of some machine to be built as soon as our technical know-how was suitably advanced? Could it be that philosophers and theologians who had been saying for millennia that thinking required an immaterial mind were just wrong?

Quite naturally, given his research interests, philosophers, Church leaders, and the general public began to look to technical physicists like MacKay for answers—and in 1950 MacKay began to produce the answers they were looking for. In 1950 he made his first of many appearances on television, explaining what the emerging field of information theory was all about.[78] Also in 1950, MacKay presented three papers to the first international information theory conference in London[79] and published two more technical papers—one for philosophers[80] and one for electrical engineers.[81]

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[77] In 1944, with the help of the International Business Machines Corporation (IBM), Harvard University built the 'Automatic Sequence Controlled Calculator'. The first *electronic* computer (named 'ENIAC' or 'the Electronic Numerical Integrator and Calculator') was then built in 1946 by the University of Pennsylvania.

[78] (MacKay 1950c) This talk was reprinted as chapter 2 of (MacKay 1968a).

[79] All of these papers were lithoprinted in 1953 under the title 'Proceedings of Information Theory Symposium, London, September 1950'. Two were subsequently reprinted in revised form, one as (MacKay 1955a) and the other as (MacKay 1952b) and again as an appendix to (MacKay 1969a).

[80] (MacKay 1950a)

[81] (MacKay 1950b)

But even before 1950, MacKay had become active in seeking out answers to some of the philosophical questions raised by the technological advances he was involved in. In the late 1940's, he began meeting with a small group of scientists and philosophers who called themselves 'The Ratio Club'.[82] As we shall see in chapter 5, it was in one of his presentations to this small group of thinkers that he first began to recognise the importance of the thought experiment upon which his 'logical relativity' principle is founded.

We should also note that 1950 was the year in which A. M. Turing (a fellow member of The Ratio Club) published the paper in which he introduced the now famous (or infamous) 'Turing test'.[83] This 'test' was built on the premise that if a computer could be built which was good enough at answering general questions to fool people into thinking that there must be a human mind giving the answers, then we must call the computer 'intelligent'. As the short-lived history of the 'artificial intelligence' debate reveals, this paper is far and away the most important work of that movement. Because of its suggestion that we base our decision of whether or not a mind exists entirely on the behaviour of the object in question, it could be argued that Turing's paper represents the high point of behaviourism with regard to the mind/body problem. Although Gilbert Ryle's book,[84] published one year before, provides a far greater *philosophical* defence of behaviourism, Turing's paper is more radical precisely because of its greater simplicity. According to Turing, it doesn't matter whether a thing looks like a mind, smells like a mind, or feels like a mind. If it behaves like a mind, it *is* a mind.

In 1951 MacKay not only completed his PhD thesis[85] (in which he developed the design of some new analogue computing techniques) and published two papers for technical readers,[86] but he also was the recipient of a Rockefeller fellowship which enabled him to tour the United States, learning from and building contacts with some of the world's leading brain scientists. As if this were not enough for one year, in 1951 MacKay also produced his first paper that explicitly relates to the mind/body

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[82] See Picture #3.

[83] (Turing 1950)

[84] (Ryle 1949)

[85] (MacKay 1951a)

[86] (MacKay 1951c; MacKay 1951b)

problem. He titled this paper 'Mindlike Behaviour in Artefacts'.[87] Because this paper demonstrates so clearly just how early MacKay was able to articulate the ideas that were to form his intellectual career, we will look at it a little more closely before we move on.

B. 'Mindlike Behaviour in Artefacts'

In at least two ways, MacKay's early paper, 'Mindlike Behaviour in Artefacts', can be thought of as a microcosm of his philosophical career. First, we see in this paper, as well as in his life as a whole, his distaste for unfounded speculation. In both this paper and in MacKay's life, philosophical questions were addressed when (and only when) his work provided him with relevant empirical contributions.[88] Secondly, in both the philosophical section of this paper and the philosophical aspect of his career, his doctrine of complementary descriptions (which we will discuss in more detail in chapter 3) is of central importance.

1. Distaste for Speculation

The chief value of MacKay's distaste for speculation is that it gave him a fresh perspective—particularly as he entered into the ancient debate surrounding metaphysical anthropology. As the title 'Mindlike Behaviour in Artefacts' would suggest, the central problem dealt with in the bulk of this paper is how to build an artefact that displays mindlike behaviour. It is worth noting that right from the beginning, in defining his problem, MacKay was careful to avoid getting into problems on which he could not bring empirical evidence to bear. Whereas the Aristotelian Society symposium in which he was invited to take part the following year was titled 'Mentality in Machines',[89] this earlier paper, which discussed essentially the same subject, did so with the terms 'mindlike' and 'artefact' rather than 'mentality' and 'machines'—thus forcing the discussion into the realm of empirical evidence as opposed to metaphysical speculation.

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[87] (MacKay 1951d)

[88] With regard to this paper, note the fact that the philosophical section is his last. With regard to his life as a whole, note his motto, 'When short of data, keep mind open, and mouth shut.' ((MacKay 1980a), p. 64).

[89] (MacKay 1952a) To further highlight the contrast between MacKay's empirical optimism and the sceptical metaphysics of so many of his colleagues, compare MacKay's paper for this symposium with those of the two other distinguished participants: (Wisdom 1952).(Spilsbury 1952)

In developing an answer to the question of whether or not it will ever be possible to build anything that behaves in a way that resembles the behaviour of conscious agents, MacKay first singles out the behaviour patterns which, when exhibited by conscious agents, we would call 'goal pursuit'. In discussing the possibility of this type of behaviour being exhibited by artefacts, MacKay refers his readers to examples of mechanisms set up to respond to the flow of information, such as those we have become quite familiar with in thermostats, toilet water-level regulators and auto pilots. All of these examples, MacKay concludes, exhibit some form of goal-directed activity—and if any of these examples were suitably modified, they could easily exhibit other kinds of mindlike behaviour as well.

There are, MacKay argues, only two essential components required for such goal-directed activity—an evaluator (such as the thermometer in the thermostat example) and an effector (such as the heater's on/off switch to which the thermostat must be attached). If these components are properly linked, the system thus produced can be legitimately called 'goal-directed'. When we set the thermostat to a certain temperature, we are giving the system a 'goal' to direct it. If the temperature drops below the goal, the evaluator triggers the effector, which then raises the temperature back towards its goal. MacKay goes on to explain that even 'spontaneous' or 'creative' activity can be induced in these simple artefacts with the mere introduction of some random element into the system.

While the effects of this spontaneous or random element will be discussed in more detail in chapter 5, what is more important for our present purposes is the ease with which goal-directed activity can be induced. In addition to providing us with a particularly elegant answer to the question of whether or not it would be possible to build an artefact capable of exhibiting goal-oriented behaviour, the non-speculative approach taken by MacKay in this paper provides us with different, further reaching lessons as well. MacKay introduces these deeper lessons with the following comment:

> The interesting aspects of the behaviour of our artefact arise principally from the combination of two features—its goal-directed activity and its 'reasonable indeterminacy'. It has already been suggested that the first of these raises no new philosophical issue. It

> does, however, have some purgative influence on our thinking about the concept of *mind*.'[90]

Though we will be discussing MacKay's metaphysical anthropology in much more detail in the chapters that follow, two of these 'purgative influences' in particular are so central to his philosophical system that they deserve further comment.

2. Centrality of Complementarity

The first 'purgative influence' derives its strength from the fact that to exhibit goal-directed behaviour, more than one component is required. This means that mindlike activity can take place only at the level of systems rather than substances. While this may seem like a merely academic point at first, upon further reflection it becomes apparent from this distinction that the efforts of so many materialists and dualists alike have been motivated by a common fallacy. MacKay makes this point in the following way:

> It now becomes easy to see the fallacy inherent equally in the analytical approach of the classical mechanist and in the Cartesian compromise. To claim that analysis of the nervous system into parts reveals 'no sign of the soul' is as indicative of a false approach as to suggest that any one organ might be the seat thereof. In terms of the information-diagram, the position is directly analogous to that of a man seeking the 'residence of triangularity' among the individual dots of a triangular dot-pattern.[91]

Ironically enough, MacKay uses the term 'analytic' here in a way that is very similar to the way in which we saw William James use the word 'synthetic' in the section quoted in our last chapter. James was criticising the method of starting with supposed elements of consciousness and attempting to understand the whole as the synthesis of its parts. Similarly, MacKay is criticising the same understanding of consciousness, albeit investigated from the other direction (i.e. *analysing* the whole *into* its parts rather than *synthesising* the whole *from* its parts). All this is just to say that both MacKay and James are criticising those thinkers who would treat mental life as nothing but the sum of its parts. Their use of antithetical terms to refer to the same thinkers is ironic, though otherwise insignificant for our purposes.

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[90](MacKay 1951d) p. 177

[91] (MacKay 1951d) p. 117

Though we will come back to MacKay's constant refusal to give in to reductionism (which MacKay called 'The Fallacy of Nothing Buttery'), the most important implication of MacKay's anti-reductionism for our present purposes is that it led him, from his earliest days to his last, to acknowledge a concept he called 'logical complementarity'. As we will see in our next chapter, this notion of logical complementarity purges our concept of mind not only from the destructive influence of reductionism, which had already been criticised by James and others, but it also relieves us from the strong sceptical bias which so often accompanies anti-reductionistic thinking (c.f. Hume's radical empiricism and James' pragmatism). The important thing for us to recognise here in our brief biographical sketch, however, is that his understanding of the way complementary descriptions work was a central part of his thinking from his very earliest days as a philosopher.

In the following paragraph we see evidence that MacKay not only had a sufficiently developed understanding of logical complementarity from this early stage in his career, but he also understood the potential of this concept to free philosophers from the lure of reductionism:

> The false dualism which used to be expressed in the question 'how can matter produce mind' would now seem to have its origin in a genuine dualism of conceptual frames of reference, defined respectively for the viewpoint of actor and spectator. The situation is not a symmetrical one, but the concept of complementarity whose value we have been let to recognise in physics appears to have an analogue here that would repay development. The dualism of wave and particle in physics is resolved neither by arbitrary denials of 'reality' nor by 'explanations' of one as 'nothing but' an aspect of the other. The process of description is seen as a selective or projective operation; and it is not so much the validity but the appropriateness of a description which requires to be discussed in any given situation. Paradoxes arise when concepts defined for one logical background are mixed carelessly with those defined for another. Descriptions in terms only of one group or the other may both be valid. It is not the descriptions which are exclusive, but the logical backgrounds in terms of which they have meaning. The moral is obvious, and seems to admit of large-scale transfer to other fields of thought.[92]

Though the mind/body problem is not among the central topics of this paper,[93] one thing that is clear from this early stage in his career is that he believed that only a

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[92] (MacKay 1951d) p. 118

[93] We must remember that he was interested in thinking and the brain as a physicist, not (at least in the beginning) as a philosopher.

proper understanding of the way descriptions relate to the events they describe will allow us to understand the difference between complementary and contradictory descriptions. Stated more positively, we see that MacKay believed that a proper understanding of what it means for a set of descriptions to be complementary allows us as scientists and philosophers to make sense of data we might otherwise be inclined to dismiss. We see MacKay make this point as we continue to read from the section quoted immediately above:

> Along such lines it seems possible that a consistent probabilistic theory of personality might be developed which could find a complementary place for some of the psychological dicta currently debated as antagonistic . . . [94]

II. The Rise of Neurology (1952-1960)

After his tour of the United States as a Rockefeller fellow in 1951, MacKay returned to the University of London, where he was made a reader in physics. Though he undoubtedly made notable attempts to treat all of his students equally, it seems that one particular student managed to secure an inordinate amount of his attention. He met this exceptional student, Miss Valerie Wood, in October of 1952.[95] But much else was happening in 1952 as well.

Very early in 1952, in February, MacKay was challenged to move one step closer to mental philosophy by M. H. Pirenne, who published a critique of 'Mindlike Behaviour in Artefacts', comparing it with Gilbert Ryle's milestone work *The Concept of Mind*. Though he did not seem at all concerned with the speculative side of mental philosophy *before* Pirenne's paper was published, ten pages of notes on Ryle's work can now be found among MacKay's papers (which were preserved by his family[96]). These notes are dated 15/01/52.

In addition to meeting his future bride and cultivating at least the beginnings of an interest in philosophy, in 1952 MacKay also published (with W. S. McCulloch) some of the ideas he had been working on for years, drawing upon his expertise in the theoretical limits of electrical engineering as well as his more recently honed skills in

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[94] (MacKay 1951d) p. 119

[95] See Picture # 4.

[96] These papers, held by Valerie MacKay, were made available to the present author during a visit in September, 2003.

brain science and information theory.[97] In addition, he built upon the work published in 'Mindlike Behaviour in Artefacts' with his contribution for the Aristotelian Society symposium titled 'Mentality in Machines'.[98]

A. Roger Sperry's 'Neurology and the Mind-Brain Problem'

1952 also saw the publication of a milestone paper in the ancient debate over the mind/body problem. Nobel Laureate Roger Sperry, with whom MacKay would later develop a close working relationship (despite profound disagreements), published his paper 'Neurology and the Mind-Brain Problem'.[99] This paper anticipated later developments in mental philosophy[100] by urging brain scientists to look at the neural correlates for motor activity as well as sensory input. While this paper can be read as an attack against those neuroscientists with strong Gestalt ties, it also presented a serious challenge to traditional behaviourism. After all, while John B. Watson notoriously claimed that to control a child's environment was to control a child's destiny, Sperry claimed that a person's behaviour is directly dictated by his or her neurological processes. While these claims are not necessarily *contradictory* they do represent a shift in *emphasis* as to where the answers to behavioural questions are to be sought. Whereas the old school of behaviourism (both Watson's psychological version and Ryle's logical version) said that any supposed 'mental events' or 'inner activity' was completely irrelevant compared to the large-scale phenomena of human behaviour, Sperry calls attention to the fact that the gap between stimulus and response is filled by an organ we are only beginning to understand. He calls upon scientifically minded psychologists and philosophers to put more of their time and effort into the emerging science of neurology, saying:

> The struggles of philosophy with psychological problems, although carried on over centuries and by some of the greatest thinkers in history, have as yet failed to produce anything of much satisfaction to the tough-minded scientist. Further progress from philosophical synthesis can be expected only after science has succeeded in furnishing philosophy additional data with which to work. For example, we shall be in a much better position to study mind-brain

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[97] (MacKay and McCullough 1952)

[98] (MacKay 1952a)

[99] (Sperry 1952)

[100] Compare the theory put forward by Sperry in this paper with the so-called 'causal theory' put forward much later by D. M. Armstrong and David Lewis.

> relations after we have attained some conception of the neural patterning involved even in such simple mental activities as the perception of color, time, pattern, size and the like. Eventually it should be possible to list the special features which distinguish those brain excitations that are accompanied by consciousness from those that are not. Once this latter objective is achieved, it may be feasible, at least, to attack the mind-body problem with some effectiveness.[101]

Sperry was clearly not intending to directly attack the status quo of reductionist behaviourism, however. He states his allegiance to this majority view most explicitly when he writes:

> To the neurologist, regarding the brain from an objective, analytical standpoint, it is readily apparent that the sole product of brain function is motor coordination. To repeat: *the entire output of our thinking machine consists of nothing but patterns of motor coordination.*[102]

But despite these strong ties with reductionist behaviourism, the damage done by his repeated appeal to the search for the neural correlates of such activities as perception and judgement could not be undone. The efforts of the early behaviourists to rid themselves of all vestiges of dualism—even to the extent that any talk of relevant 'inner activity' became unfashionable—had been effectively challenged. And as we shall see, this challenge anticipated the provocative attempt on the part of mind/brain identity theorists to overthrow logical behaviourism as the majority position among mental philosophers.

But a lot happened in D. M. MacKay's life before that philosophical challenge took place. In 1953, the year that Wittgenstein's *Philosophical Investigations*[103] was first published, MacKay not only published a response to two papers criticising his 'Mindlike Behaviour in Artefacts', but he also published three papers for technical readers[104] and three for scientifically minded Christians.[105] The most important of these papers for our present purposes is 'From Mechanism to Mind'.[106] This paper is interesting for our purposes not only because it is more directly related to mental

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[101] (Sperry 1952) p. 291

[102] (Sperry 1952) p. 297-8

[103] (Wittgenstein 1953)

[104] (MacKay 1953d; MacKay 1953b; MacKay 1953g)

[105] (MacKay 1953a; MacKay 1953c) and (MacKay 1988c) (MacKay 1953e) (portions of which were reprinted as chapter 3 of (MacKay 1988c))

[106] (MacKay 1953c)

philosophy than anything MacKay wrote before 1953, but also because he published it in a historically Christian journal and addresses specifically religious issues. Though we will discuss his ideas in much more detail in the chapters that follow, one statement from this paper that clearly demonstrates MacKay's growing interest in helping Christians to understand the relationship between the mental, spiritual, and bodily lives is worth at least mentioning before we move on. In response to a question concerning the real existence of the soul, MacKay responds:

> I agree with what I think Dr. Aitken means when he says 'Man possesses also spirit', but the sentence is easily misunderstood. To 'possess spirit' is not I think the same *kind* of possessing as to 'possess a body' or to 'possess a watch'. The verb 'possess' means something different in the two cases . . . There is a serious need, if it is not a duty, for Christians to analyse their use of language on many topics in these terms, without any consequent obligation to take the Gadarene plunge of some contemporary language analysts.[107]

In 1954 MacKay presented a short paper to the 14th International Congress of Psychology[108] as well as publishing two more papers at the intersection of mental philosophy and electrical engineering,[109] and one for a more general, Christian audience.[110] All in all, however, it seems safe to say that 1955 was a more exciting year. After all, it was in 1955 that Valerie Wood graduated from the University of London and became Mrs. Valerie Wood MacKay[111]—not to mention the fact Donald published three more papers[112] and one more book chapter.[113]

1956 was not only the year Donald and Valerie had their first son, Robert,[114] but it was also a very important year in the history of the mind/body problem. Donald produced another five publications[115]—all of which were written for scientists—and the first full-length criticism of MacKay's philosophical reasoning appeared in the journal *Mind*. We will be discussing this criticism (and MacKay's response,

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[107] (MacKay 1953c) p. 31-32

[108] (MacKay 1954d)

[109] (MacKay 1954b; MacKay 1954c)

[110] (MacKay 1954a)

[111] See Picture # 5.

[112] (MacKay 1955a; MacKay and Bergman 1955; MacKay 1955b)

[113] (MacKay 1955c)

[114] Born on 4 July, 1956

[115] (MacKay 1956a; MacKay 1956e; MacKay 1956d; MacKay 1956c; MacKay 1956b)

published in 1957) in chapter 3. The reason that 1956 was such a big year for mental philosophy, however, is not directly related to any of these publications—though there is one ironic, indirect relation. The paper immediately following MacKay's 'Towards an Information Flow Model of Human Behaviour' in the *British Journal of Psychology* was none other than U. T. Place's momentous work 'Is Consciousness a Brain Process?'.[116] This paper of Place's rocked the philosophical establishment. While Sperry merely alluded to a possible future time in which the neurological correlates of conscious experience would be fully known, Place openly and quite convincingly argued that the much stronger thesis 'consciousness is a brain process' could not be dismissed upon philosophical grounds alone. This paper is so important in the history of the mind/body debate in Anglo/American philosophy that we must discuss it in a little more detail before we move on.

B. Identity Theory

Though significant groundwork for Place's thesis was laid by Carnap and the positivists as well as Roger Sperry, U. T. Place is generally acknowledged as the thinker who first introduced the philosophical position that has come to be known as 'identity theory'. His work, perhaps more than any other in the history of philosophy, set the agenda for debate over the mind/body problem from 1956.

1. U. T. Place's 'Is Consciousness a Brain Process?'

As we mentioned at the close of our last chapter, in many respects, identity theory can be seen as the philosophical successor to behaviourism. The relationship between behaviourism and identity theory is traced out rather explicitly in Place's introduction. He begins his introduction with the following observation:

> The view that there exists a separate class of events, mental events, which cannot be described in terms of the concepts employed by the physical sciences no longer commands the universal and unquestioning acceptance among philosophers and psychologists which it once did. Modern physicalism, however, unlike the materialism of the seventeenth and eighteenth centuries, is behaviouristic.[117]

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[116] (Place 1956)

[117] (Place 1956) p. 44

The natural question that arises out of this observation is whether physicalism could survive the demise of behaviourism. Specifically, Place asks whether or not physicalism will have to be rejected if behaviourism turns out to be unable to adequately account for 'statements about pains and twinges, about how things look, sound, and feel', etc. As his work proceeds, it becomes obvious that his chief hope for an affirmative answer lies in a re-description of consciousness. For while the old behaviouristic model described consciousness as nothing but either 'a special type of behaviour . . . or a disposition to behave in a certain way', Place asks us to consider describing consciousness as a brain process.[118] It is therefore with the stated goal of finding a suitable successor to behaviourism that he sets out to prove that the thesis 'Consciousness is a brain process' cannot be dismissed on logical grounds alone.

In arguing for the logical cogency of the thesis, Place begins by distinguishing between what he calls 'the "is" of definition' and 'the "is" of composition'. The 'is' of definition, he argues, implies an analytic statement (meaning that the truth value of the statement is a merely a factor of the definitions of the terms involved), whereas the 'is' of composition implies a synthetic statement (meaning that the truth value of the statement depends on something more than mere definitions). Once this distinction is clear, Place argues, we will see that at least one of the most profound worries we may have had concerning the identity thesis goes away. To this effect, Place says:

> Those who contend that the statement 'Consciousness is a brain process' is logically untenable base their claim, I suspect, on the mistaken assumption that if the meanings of two statements or expressions are quite unconnected, they cannot both provide an adequate characterisation of the same object or state of affairs: if something is a state of consciousness, it cannot be a brain process, since there is nothing self-contradictory in supposing that someone feels a pain when there is nothing happening inside his skull. By the same token we might be led to conclude that a table cannot be an old packing case, since there is nothing self-contradictory in supposing that someone has a table, but is not in possession of an old packing case.[119]

Even though the expressions on either side of the 'is' in the statement 'Consciousness is a brain process' have senses that are quite different from one

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[118] All quotations in this paragraph have been taken from p. 44 of (Place 1956).

[119] (Place 1956) p. 45-46

another, Place argues, it is still logically possible for them to refer to the same object or state of affairs. Put more precisely, it is Place's contention that the logical independence of expressions does not entail the ontological independence of the entities referred to by those expressions.

Place goes on to explain the conditions under which he thinks it would be appropriate to say that two logically independent expressions refer to the same ontological entity. He gives the example statements 'A cloud is a mass of tiny particles in suspension' and 'Lightning is a motion of electric charges'. He says that in these cases, the 'technical scientific observations set in the context of the appropriate body of scientific theory provide an immediate explanation of the observations made by the man in the street'.[120] This is the kind of situation Place has in mind when he proposes the hypothesis 'Consciousness is a brain process'.

Though MacKay was not one of the many thinkers to directly respond to Place's paper, he had already published an account of the relationship between consciousness and brain processes that was similar in many ways to the thesis Place put forward. As we shall see in detail in chapters 3 and 4, however there were also important differences between Place's identity theory and MacKay's doctrine of complementary descriptions.

In 1957, MacKay spelled out his doctrine of complementary descriptions in much more detail—primarily in response to Peter Alexander's criticism of his view the year before[121]. He also significantly clarified how his understanding of the mind/brain relationship accorded with traditional concepts of freedom and personal responsibility with his paper 'Brain and Will',[122] which was originally written for a non-technical audience. It is also worth noting that of the five non-philosophical papers MacKay published in 1957,[123] three deal with the neural correlates of visual experience, indicating the growth of an interest in that area that would stay with him for the rest of his life. Another interest of MacKay's that began in 1957 came to him in the form of baby girl. Eleanor MacKay was born on the 13th of November.

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[120] (Place 1956) p. 48

[121] (MacKay 1957b)

[122] (MacKay 1957a)

[123] (MacKay 1957g; MacKay 1957c; MacKay 1957d; MacKay 1957e; MacKay 1957f)

In 1958, MacKay published another three papers on technical aspects of visual perception[124] in addition to a popular scientific report[125] and two philosophical works. Of his two philosophical papers, one was part of a symposium on philosophical uses of the concept of complementarity[126] and the other[127] developed the argument for freedom that he had employed in a section of his 'Brain and Will', published the year before. He further developed this argument in another paper published by *Mind* in 1960.[128] This argument for freedom, which he called 'logical relativity', will be discussed in chapter 5.

2. Wilder Penfield's 'The Excitable Cortex in Conscious Man'

Another work published in 1958 that has had a profound influence on the mind/body problem is Wilder Penfield's 'The Excitable Cortex in Conscious Man'.[129] In this work, Penfield reported some of the results of his experiments in which conscious patients had mild electrical shocks applied to parts of their exposed brains. He described these results as follows:

> Finally, conduction of current from the interpretive cortex which lies on the superior and lateral surfaces of the temporal lobes (and possibly also the inferior and menial surface) may have two different effects.
>
> First, a signal is caused to appear in consciousness, one signal from a small group of possible signals. The signals are interpretations of present experience such as feelings of familiarity, strangeness, fear, position, direction of movement, etc. Under normal conditions such signals are familiar to everyone but they can only be accurate if preceded by subconscious comparison of present experience with past experiences.
>
> The second effect of temporal stimulation is the recall of experience from the past. This seems to be a sequential reactivation of those things of which the patient was aware during a previous period of time.[130]

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[124] (MacKay 1958c; MacKay 1958e; MacKay 1958f)

[125] (MacKay 1958b)

[126] (MacKay 1958a)

[127] (MacKay 1958d)

[128] (MacKay 1960g)

[129] (Penfield 1958)

[130] (Penfield 1958) p. 39

Needless to say, these findings greatly increased the empirical evidence in support of some kind of identity thesis.

3. Herbert Feigl's 'The "Mental" and the "Physical"'

Also in 1958, Herbert Feigl published the first major philosophical elaboration on the identity thesis. In this paper,[131] titled 'The "Mental" and the "Physical"', Feigl presented a very technical version of the identity thesis set within the complex framework of American analytic philosophy. Though he mentioned 'Is Consciousness a Brain Process?' in his bibliography, no mention of Place or his work can be found in the text of Feigl's work. In the following year, however, J. J. C. Smart produced a paper further elaborating on the identity thesis in which Place's work received much greater recognition.

4. J. J. C. Smart's 'Sensations and Brain Processes'

At the very end of his 'Is Consciousness a Brain Process?', Place acknowledged the fact that J. J. C. Smart had been a strong influence on his position. In 1959, however, Smart broke from Place in several important ways with the publication of his 'Sensations and Brain Processes'.[132] The main difference between Smart's position and Place's is that Smart was not nearly as timid with regard to the prospect of reduction. Whereas Place was very careful to limit the scope of his 'is' in the hypothesis 'Consciousness is a brain process', so that it was never quite clear to what extent he would be comfortable with the prospect of reducing consciousness to a brain process, Smart stated overtly, 'When I say that a sensation is a brain process or that lightning is an electric discharge, I am using "is" in the sense of strict identity'.[133] Inspired by Occam's razor and an extremely behaviouristic reading of Wittgenstein, Smart openly embraces the prospect of reduction, saying:

> The suggestion I wish if possible to avoid is a different one, namely that 'I am in pain' is a genuine report, and that what it reports is an irreducibly psychical something. And similarly the suggestion I wish to resist is also that to say 'I have a yellowish-orange after-image' is to report something irreducibly psychical.[134]

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[131] (Feigl 1958)

[132] (Smart 1959)

[133] (Smart 1959) p. 145

[134] (Smart 1959) p. 142

This openly reductionistic system produces a metaphysical anthropology in which all vestiges of mental activity are explained away by physical descriptions. Smart summarises his metaphysical anthropology as follows:

> A man is a vast arrangement of physical particles, but there are not, over and above this, sensations or states of consciousness. There are just behavioural facts about this vast mechanism, such as that it expresses a temptation (behaviour disposition) to say 'there is a yellowish-red patch on the wall' or that it goes through a sophisticated sort of wince, that is, says 'I am in pain'.[135]

Smart concludes his essay by taking leave from Place's position in one more respect. Whereas Place put forward the statement 'Consciousness is a brain process' as an empirical hypothesis, Smart believes that the hypothesis is not contingent on further empirical evidence. Smart believes that we already have all the data we need. The only thing we need to do is choose which theory makes the best sense of the data we already have. Smart argues that both reductionistic and non-reductionistic theories make use of all the empirical data—they just do it in different ways. Smart suggests that non-reductive theories are in the same epistemological boat as Gosse's theory that the world was created in 4004 BC with all the fossils and all already in place. Neither non-reductive theories nor Gosse's ideas go against the empirical evidence, though Smart argues that they both go against the values of 'parsimony and simplicity', making them untenable for philosophical rather than purely empirical reasons.[136]

Though Smart was clearly interested in MacKay's work (as evidenced not only by a footnote to MacKay in 'Sensations and Brain Processes'[137] but also letters[138] from Smart among MacKay's papers), MacKay, having already put forward a general account of his understanding of the mind/brain relationship, did not directly respond to any of the growing number of identity theorists. He did demonstrate a rising interest in psychology, however, publishing three short papers for psychologists in 1959[139] and attending the 15th International Congress of Psychology in Brussels in

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[135] (Smart 1959) p. 143

[136] (Smart 1959) pp. 155-156

[137] Smart refers to MacKay's (MacKay 1956e)

[138] Though an exhaustive search of letters among MacKay's papers has not been performed, a letter from Smart dated 1962 indicated prior correspondence.

[139] (MacKay 1959a; MacKay 1959b; MacKay 1959f; MacKay 1956e)

addition to producing his two scientific works,[140] one philosophical paper,[141] and one work on information theory.[142]

III. Finding the Right Physicalist Course of Action (1960-1977)

From 1960 onwards, mental philosophy has struggled to sort out the implications of the rise of neuroscience. The years between 1960 and 1977 were especially characterised by an explosion of new theories seeking to modify the identity theory put forward by Place, Feigl and Smart. Since MacKay had already published accounts of how his complementary account of the mental and the physical worked, these years for him were comparatively stable. Instead of interacting with all the new ideological camps that sprang up in the philosophical community with the proposal of each new theory of mind/body relation, MacKay was content to pursue his empirical research, defend his view against challengers (particularly challengers who claimed that his view did not leave room for a sufficient understanding of human freedom), and contribute to the rising level of understanding and co-operation between popular Christianity and science.

Because MacKay's concerns and the concerns of the majority of mental philosophers took such disparate paths between 1960 and 1977, in this section of our historical account we will discuss them separately.

A. Philosophical Responses to Identity Theory

Between 1960 and 1977, the field of mental philosophy was littered with prominent responses, objections, and modifications to identity theory. Because this was such a turbulent time in the history of philosophy, it is necessary for any straightforward historical account to gloss over some otherwise important distinctions, as well as overlook some very important theorists. It will also be necessary for our present purposes to avoid getting involved in the level of detail that might otherwise be expected as to the development of each new idea. Perhaps the simplest way to avoid the minor twists and turns of debate over the mind/body problem will be to summarise the positions of key thinkers, particularly as they presented them in what

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[140] (MacKay 1959f; MacKay 1959e)

[141] (MacKay 1959c)

[142] (MacKay 1959d; MacKay 1960i)

would appear to be their most influential works. Adopting this method will *not* allow us to discuss the *development* of each thinker's ideas. Nor will it allow us to present an accurate account of the intricate ways in which each thinker interacted with and responded to the ideas of others. But given the constraints of our present investigation, the benefits of this method would seem to outweigh these costs.

1. Hilary Putnam's 'Philosophy and Our Mental Life'

The first key figure in the mind/body debate between 1960 and 1977 that we need to discuss is Hilary Putnam. His name is generally associated with the philosophical camp known as 'functionalism', which he founded as an alternative to identity theory. He first introduced this alternative in his 1960 paper 'Minds and Machines'.[143] As more alternatives to identity theory began to spring up, however, and he came to recognise certain weaknesses in his early formulations of this alternative, Putnam made several modifications to his theory. For this reason, instead of focusing on his 1960 paper, we will look at one of his most widely reprinted papers, 'Philosophy and Our Mental Life',[144] originally presented as part of a symposium on 'Computers and the Mind' at The University of California at Berkeley in 1973, which represents a mature formulation of his position.

The main problem Putnam had with identity theory was that it made people worry about the philosophical integrity of mental life. As he so eloquently put this concern:

> People are worried that we may be debunked, that our behaviour may be exposed as really explained by something mechanical. Not, to be sure, mechanical in the old sense of cogs and pulleys, but in the newer sense of electricity and magnetism and quantum chemistry and so forth. In this paper I want to argue that this can't happen. Mentality is a real and autonomous feature of our world.[145]

Putnam departed from identity theory by arguing that the question of substances (i.e. materialism v. immaterialism) with regard to the mind/body problem is completely irrelevant. What matters, he said, is not what we are made of, but what we do. The assumption often made by both materialists and dualists, according to Putnam, is that

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[143] (Putnam 1960)

[144] (Putnam 1975)

[145] (Putnam 1975) p. 291

if we are completely material then there is a physical explanation for our behaviour. Putnam thouht this was a mistake.

With regard to neuroscience (i.e. the study of the physical correlates of our mental lives) Putnam said that it was really important that we not get so bogged down in detail that we miss the point. In particular, he argued that any time we want to understand a complex phenomenon (like an intelligent human being) what matters is not *detail* but *relevance*. After all, even if a super-scientist could explain all the physical forces of each molecule involved in, say, an argument between husband and wife, that massive amount of information would most likely distract us from understanding what is going on, not lead us on to any deeper understanding. And that is true whether we are talking about human brains or air travel, or even mechanical clock making. The way to understand phenomena, he argued, is not just to know what things are happening, but to know which of the things that are happening are important.

Armed by this argument for the importance of relevance over detail, Putnam was able to defend the following comments (which seem to represent his central thesis):

> Now, imagine two possible universes, perhaps 'parallel worlds', in the science fiction sense, in one of which people have good old fashioned soul, operating through pineal glands, perhaps, and in the other of which they have complicated brains. And suppose that the souls in the soul world are functionally isomorphic to the brains in the brain world. Is there any more sense to attaching importance to this difference than to the difference between copper wires and some other wires in the computer? Does it matter that the soul people have, so to speak, immaterial brains, and that the brain people have material souls? What matters is the common structure, the theory *T* of which we are, alas, in deep ignorance, and not the hardware, be it ever so ethereal.[146]

Though Putnam's work was clearly a rival to identity theory, it is also clear that these rival theories shared a common goal. Whereas Place, seeing the inevitable demise of behaviourism, argued for the logical possibility of the identity hypothesis so that we would still be able to do empirical psychology without having to resort back to substance dualism, Putnam argued that we could (and, indeed, should) do psychology without regard to our views on either dualism or identity theory. The

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[146] (Putnam 1975) p. 293

final effect of Putnam's work, therefore, is that even in the aftermath of behaviourism, a denial of dualism does not entail a commitment to identity theory.

2. Paul Feyerabend's 'Mental Events and the Brain'

Paul Feyerabend, who had, in 1958, participated with MacKay in a symposium titled 'Complementarity' for the Aristotelian Society,[147] published two papers in 1963 that offered another alternative to identity theory.[148] Whereas Putnam had argued that identity theory was too radical, however, Feyerabend argued that it was not radical enough.

Feyerabend argued that the problem identity theorists kept running into was that identity statements cut both ways. Thus, in saying that mental processes are identical with some physical processes, they were also saying that some physical processes are mental processes. Since mental features have always been understood to be non-physical, the identity theorist was thereby committed to something like the thesis 'Some physical processes are non-physical processes'. Needless to say, this thesis was problematic.

According to Feyerabend, the only way to avoid being stuck with this untenable thesis is to drop the traditional language of mental processes altogether. In his 'Mental Events and the Brain', he makes this point in the following way:

> The proper procedure for him to adopt is to develop his theory without any recourse to existent terminology. If he wants to use H [the identity thesis] at all, he ought to use it for *redefining* 'mental process' (if he intends to perpetuate ancient terminology, that is). The empirical nature of his theory is not endangered thereby. After all, a physiological theory of epilepsy does not become an empty tautology on account of the fact that it does not make use of the phrase—or of the notion—'possessed by the devil', 'devil' here occurring in its *theological* sense. There are enough independent predictions available, many more predictions in fact than the mentalist could ever provide—or would even be willing to provide (think only of the tremendous field of the physiology of perception).[149]

While Feyerabend's approach, which came to be known as 'eliminative materialism' or simply 'eliminativism', may have been a bit *too* radical for many of his contemporaries, it was at least carefully considered by most in the

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[147] (Feyerabend 1958; MacKay 1958a)

[148] (Feyerabend 1963a; Feyerabend 1963b)

[149] (Feyerabend 1963b) p. 296

field. And, as we shall see later, Feyerabend's theory was also revived and elaborated upon by Paul and Patricia Churchland in the 1980's.

3. Donald Davidson's 'Psychology as Philosophy'

Donald Davidson sided with Hilary Putnam in saying that the identity theory went too far. In some sense, one could even say that Davidson took Putnam's criticism of strict identity theory one step further. For whereas Putnam argued that strict identity didn't matter, Davidson argued that it didn't work. His argument was not against the physical monism demanded by identity theory, however, but what the strict identity theorists were suggesting we could do with that monism—particularly their effort to pave the way for a physics of psychology. Like Feyerabend, Davidson pointed to the identity theorist's problematic understanding of the relationship between some kinds of mental processes and some kinds of physical processes. But whereas Feyerabend had argued that since mental language could not be consistently related to physical language, mental language should be *dropped*, Davidson argued that since mental language cannot be consistently related to physical language, it is a mistake to try to reduce mental descriptions to physical descriptions.

Though MacKay was not very active in the debate over identity theory at this point in his career, it is ironic enough to note that when Davidson first presented what is arguably his most important paper, 'Psychology as Philosophy',[150] MacKay was in another room chairing a discussion on 'Computer Models in Psychology' for the very same conference.[151]

In this paper, Davidson argued that even if we take physical monism as a given, we will never be able to reason from physical statements (however detailed) to psychological statements in the law-like way that would be demanded by a science of psychological physics.

Though most of Davidson's current followers would prefer the broader term 'token identity theory' (meaning that every individual mental something is identical to some physical something, though we cannot necessary identify any type of mental thing with any type of physical thing), Davidson himself calls his position '*anomalous*

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[150] (Davidson 1974). See also (Davidson 1980) and countless other re-prints.

[151] This conference, titled 'Philosophy of Psychology' was sponsored by the Royal Institute of Philosophy and held at the University of Kent in 1971. For more information, as well as the first publication of this often reprinted paper of Davidson's, see (Brown 1974).

monism: monism, because it holds that psychological events are physical events; anomalous, because it insists that events do not fall under strict laws when described in psychological terms'.[152] Davidson explains why it is that psychological events (i.e. events described in psychological terms) cannot accurately be explained by reference to a set of strict laws similar to the ones that govern physical events (i.e. events described in physical terms) in this way:

> When the world impinges on a person, or he moves to modify his environment, the interaction can be recorded and codified in ways that have been refined by the social sciences and common sense. But what emerge are not the strict quantitative laws embedded in sophisticated theory that we confidently expect in physics, but irreducibly statistical correlations that resist, and resist in principle, improvement without limit. What lies behind our inability to discover deterministic psycho-physical laws is this. When we attribute a belief, a desire, a goal, an intention or a meaning to an agent, we necessarily operate within a system of concepts in part determined by the structure of beliefs and desires of the agent himself. Short of changing the subject, we cannot escape this feature of the psychological; but this feature has no counterpart in the world of physics.[153]

What Davidson is saying here is that physiological descriptions and psychological descriptions pick out radically different features of any given state of affairs. While these different features are not necessarily features of different substances (as dualism would claim) they are, nonetheless, very importantly different.[154] The difference lies not in the substance referred to, but in the set of facts we look to for truth conditions. The truth conditions of physical descriptions are features of an object in the world to which we all have more or less equal access. The truth conditions of psychological descriptions, on the other hand, are features of the subject to which those psychological descriptions apply. We can come to know a subject of description on a personal level—giving us access to the truth conditions of psychological statements concerning that subject, and we can also come to know a subject of description on an objective level (i.e. *as an object*)—giving us access to the truth conditions of physiological statements concerning that subject. But the really important bit, according to Davidson, is that we remember that psychological

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[152] (Davidson 1974) p. 43

[153] (Davidson 1974) p. 42

[154] For lack of a better word, we could say that the difference is 'logical' rather than 'ontological'.

statements have meaning only against a *personal* background and physiological statements have meaning only against an *objective* background.

This difference has at least this importance: it rules out *a priori* any hope we might otherwise have had of discovering a science of objective laws either to bridge the gap between psychological and physical descriptions or to predict future mental states based on present ones. This means that physical laws, which are, by virtue of their essentially objective nature, the proper goal of only the objective sciences, are not the proper goal of psychology. Here Davidson provides us with one of his rare and extremely helpful examples:

> It is an error to compare a truism like 'If a man wants to eat an acorn omelette, then he generally will if the opportunity exists and no other desire overrides' with a law that says how fast a body will fall in a vacuum. It is an error, because in the latter case, but not the former, we can tell in advance whether the condition holds, and we know what allowance to make if it doesn't. What is needed in the case of action, if we are to predict on the basis of desires and beliefs, is a quantitative calculus that brings all relevant beliefs and desires into the picture. There is no hope of refining the simple pattern of explanation on the basis of reasons into such a calculus.[155]

What Davidson does *not* say, however, is that there is no hope for the future of psychology. There is hope for psychology; it is just that psychologists are going to have to get over the fascination with objective law that was the demise of behaviourism. The future of psychology, Davidson suggests, lies in *generalisations* made by *getting to know the subject* rather than *laws* based on detached observation. Perhaps this point will be clarified by one more sentence from Davidson's 'Psychology as Philosophy':

> The simplest way of trying to improve matters is to substitute for desires and beliefs more directly observable events that may be assumed to cause them . . . But perhaps it is now obvious to almost everyone that a theory of action inspired by this idea has no chance of explaining complex behaviour unless it succeeds in inferring or constructing the pattern of thoughts and emotions of the agent.[156]

What Davidson has done, in developing this position he calls 'anomalous monism', is to take a little of the excitement out of the debate. After all, substance dualism offers us the very exciting prospect of vast worlds interacting with ours in mysterious

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[155] (Davidson 1974) p. 45

[156] (Davidson 1974) p. 46

ways. On the other hand, strict identity theory is the stuff that other dreams are made of. It offers us the possibility of learning to control our brains (and the brains of others) in fantastic and reality-bending ways. Davidson, on the other hand, offers us a sober look at the mind/body problem without taking any such fascinating flights into the world of fantasy. According to Davidson, no matter how fond we may be of our microscopes and laboratories, if we really want to get to know someone, we are just going to have to sit down and talk to them.

4. Thomas Nagel's 'What is it Like to be a Bat?'

One more position that has profoundly affected the philosophical landscape surrounding the mind/body problem was put forward by Thomas Nagel in 1974. In his seminal paper, 'What is it Like to be a Bat?',[157] Nagel argued against *any* attempt to explain even a single, isolated instance of conscious activity in physical terms.

While Putnam and Davidson both argue (against Feyerabend) that even a complete understanding of the physiological correlates of mental experience would not threaten our common-sense impression of consciousness, Nagel takes yet another step away from any strict identity thesis. His argument is fairly simple. Nagel argues that since we cannot fully explain subjective experience in objective language, and since physical events are essentially objective, bold faced physicalism will always be an inadequate model for understanding the essentially subjective experience of mental activity. He summarises this point with the following paragraph:

> This bears directly on the mind-body problem. For if the facts of experience—facts about what it is like *for* the experiencing organism—are accessible only from one point of view, then it is a mystery how the true character of experiences could be revealed in the physical operation of that organism. The latter is a domain of objective facts *par excellence*—the kind that can be observed and understood from many points of view and by individuals with differing perceptual systems. There are no comparable imaginative obstacles to the acquisition of knowledge about bat neurophysiology by human scientists, and intelligent bats or Martians might learn more about the human brain than we ever will.[158]

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[157] (Nagel 1974)

[158] (Nagel 1974) p. 442

B. MacKay Strengthens His Position

As we have already mentioned several times, MacKay was not particularly active in philosophical debates surrounding the identity thesis between 1960 and 1977. But that is not to say that he was not active. On the 24th of May, 1960, Donald and Valerie had their second daughter, Janet. Very soon afterwards, they moved to Staffordshire, where MacKay took up the newly formed Granada chair of communication at the University of Keele.

As the list of works published by MacKay in 1960 demonstrates, however, he was not only building his family and new research department. He was also building a broader base for his position on the mind/body problem. In a paper written as a broadcast talk for the BBC Third Programme, he explained how the science of information theory was coming to recognise the fact that many simple types of human language can be understood not only psychologically, but also in the complementary mechanical descriptions employed by systems engineers.[159]

In one of his empirical papers published in 1960, he explored the relative benefits of various methods for modelling brain activity.[160] He argues in this paper that different models are needed to understand nervous activity at different levels of magnification. Each of these different models would, of course, offer us complementary descriptions of the same complex events.

Of his four papers published that year for Christian audiences, all dealt with the implications of a proper understanding of complementary descriptions: two developed the relationship between complementary descriptions and divine action,[161] one explained to a popular audience how science and theology as whole disciplines can be understood as complementary descriptions of the same world,[162] and another explained in greater detail how physical and psychological descriptions of human beings can be understood as complementary.[163]

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[159] (MacKay 1960j)

[160] (MacKay 1960e), his other two empirical papers that year were (MacKay 1960a) and (MacKay 1960f). Though it is not quite an empirical paper, we should also mention that MacKay also published two papers for electronic engineers that year (MacKay 1960i) and (MacKay and Jeffreys 1960).

[161] (MacKay 1960b; MacKay 1960c)

[162] (MacKay 1960h)

[163] (MacKay 1960d)

His most philosophical paper of the year was a further development of his argument (which we will discuss in chapter 5) against the idea that if the human brain can be understood on a mechanistic level, then our intuition of freedom is illusory.[164]

On the 8th of May, 1961, Margaret MacKay was born—the fourth of five children. The fifth, David, was born 22 April, 1967. But as we said before, MacKay was building more than just a family between 1960 and 1977. In addition to his 1960 publications discussed above, during these years he published two mathematical works,[165] fourty-three papers relating to mechanical aspects of information theory,[166] fifty-seven empirical reports on his research into neurological aspects of vision,[167] four other papers exploring the relationship between neurology and communication,[168] and fourty-two papers exploring the philosophical and theological implications of his empirical work.[169]

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[164] (MacKay 1960g)

[165] (MacKay and Fischer 1962; MacKay and Jeffreys 1965)

[166] (MacKay 1963e; MacKay 1962c; MacKay 1962b; MacKay 1965c; MacKay 1971c; MacKay 1963c; MacKay 1962a; MacKay 1962e; MacKay 1961i; MacKay 1961c; MacKay 1961b; MacKay 1968g; MacKay 1968i; MacKay 1968f; MacKay 1967c; MacKay et al. 1967; MacKay 1966a; MacKay 1966d; MacKay 1966b; MacKay 1965d; MacKay 1965b; MacKay 1964k; MacKay and Ainsworth 1964; MacKay 1964i; MacKay 1963b; MacKay 1964d; MacKay 1970c; MacKay 1970a; MacKay 1974d; MacKay 1972b; MacKay 1969b; MacKay 1965f; MacKay 1963a; MacKay 1969a; MacKay 1961g; MacKay 1964h; MacKay 1963d; MacKay 1964j; MacKay 1963f; MacKay 1964c; MacKay, Glover, and Jeffreys 1966; MacKay 1968d; MacKay 1973c)

[167] (MacKay 1961d; MacKay 1961a; MacKay 1968e; MacKay 1967d; MacKay 1967e; MacKay 1965a; MacKay 1965g; MacKay 1964a; MacKay 1963g; Hammond and MacKay 1976; Groos, Hammond, and MacKay 1976; MacKay 1971d; MacKay 1970i; MacKay 1970j; MacKay and Rietveld 1969; MacKay 1969c; MacKay and MacKay 1974c; MacKay and Mittelstädt 1974; MacKay 1973d; MacKay 1973e; MacKay and Jeffreys 1973; MacKay 1972e; MacKay 1972g; MacKay 1972f; MacKay and MacKay 1973; MacKay 1961j; MacKay, Andrews, and Wilson J. P. 1963; MacKay et al. 1963; MacKay 1964c; MacKay 1964f; MacKay and Fiorentini 1965; MacKay and Fiorentini 1966; MacKay, Agrawal, and Kent 1965; MacKay 1968b; MacKay 1968c; MacKay and Rietveld 1968; MacKay et al. 1969; MacKay 1970f; MacKay 1970d; MacKay 1970h; MacKay 1970e; MacKay 1973a; MacKay 1974f; MacKay and MacKay 1974a; MacKay and MacKay 1975b; MacKay and MacKay 1975a; MacKay and MacKay 1974b; MacKay and Hammond 1975; MacKay and Yates 1975; MacKay 1976c; MacKay and MacKay 1977; MacKay and MacKay 1976a; MacKay and MacKay 1976b; MacKay 1977a; MacKay and Hammond 1977; MacKay 1976b; MacKay and Hammond 1981b)

[168] (MacKay 1968h; MacKay 1967b; MacKay 1965e; MacKay, Millar, and Underwood 1968)

[169] (MacKay 1974a; Thayer and MacKay 1973; MacKay 1963e; MacKay 1961h; MacKay 1961e; MacKay 1968f; MacKay et al. 1967; MacKay and Eccles 1967; MacKay 1966b; MacKay 1965b; MacKay 1964l; MacKay 1964m; MacKay 1964g; MacKay 1971a; MacKay 1971b; MacKay 1970g; MacKay 1970b; MacKay 1975; MacKay 1974g; MacKay 1974e; MacKay 1973b; MacKay 1972d; MacKay 1972a; MacKay 1977b; MacKay 1976a; MacKay 1974b; MacKay 1974c; MacKay 1972c; MacKay 1971e; MacKay 1968k; MacKay 1966c; MacKay 1965f; MacKay 1963a; MacKay 1962d;

But of these fourty-two papers exploring the philosophical and theological implications of his empirical work, most dealt with the *implications* of his solution to the mind/body problem rather than stating explicitly in philosophical and theological terms what his position on the problem was. It is because he was comparatively implicit regarding his metaphysical anthropology up until 1977 that we must treat that year as a milestone in his academic career as it relates to our topic. For in 1977 two works were published on the mind/body problem that drew MacKay deeper into the philosophical discussion than he had ever been willing previously to go.

IV. Exploring the Mystery of Consciousness (1977-1986)

The most important work regarding the mind/body problem published in 1977 is the rather lengthy volume, 'The Mind and its Brain', written by Sir Karl Popper and Sir John Eccles.[170] This book is important for several reasons. First, and most obviously, it is important because of who wrote it. As MacKay has said of them, Popper and Eccles 'are deeply and justly respected for their contributions to the philosophy and practice of science, and show an impressive grasp of both the ancient literature and the modern discoveries most relevant to their theme.'[171] Secondly, and perhaps most surprisingly, this book is important because it attempts to revive a thesis that philosophers and scientists had been working hard to distance themselves from for nearly a century—dualist interactionism. Admittedly reminiscent of René Descartes' work three and a half centuries earlier, Popper says, 'I think that the self in a sense plays on the brain, as a pianist plays on a piano or as a driver plays on the controls of a car.' Eccles agrees, adding, 'The self-conscious mind acts upon . . . neural centres, modifying the dynamic spatio-temporal patterns of the neural events.'[172]

Though their interactionist thesis was too radical to gain much of a following in analytic philosophical circles, their thesis is important for our study if for no other reason than that it drew MacKay into the debate.

MacKay 1967a; MacKay 1968j; MacKay 1961f; MacKay 1963h; MacKay 1963f; MacKay 1964e; MacKay 1964b; MacKay 1968d)

[170] (Popper and Eccles 1977)

[171] (MacKay 1978h) p. 599

[172] Both of these selections, as quoted on p. 600 of (MacKay 1978h), are from (Popper and Eccles 1977) p. 495.

A. The Bunge Debate

Whether MacKay would have developed his interest in mental philosophy to the degree that he did without having the exchange with Mario Bunge that he did can never be known. We can say, however, that this exchange provided MacKay with a lively entry as an active participant[173] to the mind/body debate.

In 1978, MacKay wrote a paper in response to Popper and Eccles' work for the journal *Neuroscience.*[174] Because Mario Bunge had just published a paper on the mind/body problem in the previous volume of that journal,[175] MacKay also took the opportunity to offer some critical comments on Bunge's work. In this paper, MacKay presented his own understanding of the mind/body relationship as a 'third option' between the two extreme views presented by Popper and Eccles on the one hand and Bunge on the other.

To put it mildly, Bunge did not seem to approve of MacKay's use of his position as an extreme view. Lest anyone should be left in any doubt as to Bunge's attitude towards MacKay, the journal *Neuroscience*, in the very next issue, published a scathing letter from Bunge,[176] to which MacKay was allowed to offer a brief response.[177]

The paper that Bunge originally wrote for *Neuroscience*[178] was titled 'Emergence and the Mind'. In that paper, he first attempts to define some of the important terminology used so frequently in mental philosophy such as 'thing', 'property', 'state', 'process', 'resultant', 'emergent', and 'level'. He then uses all these terms to carve the ideological landscape into ten districts—five of which he terms versions of psychoneural monism, and the other five of which he terms versions of psychoneural

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[173] As we saw earlier, MacKay's work had been used in the mind/body debate at least since (Smart 1959), and he had addressed the mind/body problem in several of his previous works. His position on the mind/body problem was even compared with Ryle's as early as 1952 (Pirenne 1952), though MacKay himself never commented on such comparisons (though he had studied Ryle's position by then, he did not mention Ryle in his reply (MacKay 1953f)). It is only with the publication of (MacKay 1978h), in response to both the work of Popper and Eccles and that of Bunge, that MacKay begins to actively compare his own position to the positions of others in the philosophical debate.

[174] (MacKay 1978h)

[175] (Bunge 1977)

[176] (Bunge 1979)

[177] (MacKay 1979d)

[178] (Bunge 1977)

dualism. He then dismisses, one by one, nine of the positions, leaving only the version of psychoneural monism he calls 'emergentist materialism'.

What sparked MacKay's sharpest criticism was not so much Bunge's position, but the way in which he argued for it. After pointing out some helpful aspects of Bunge's paper, MacKay comments:

> But in arguing for his own preferred option of 'emergentist materialism' I fear that Bunge displays at least as much hasty dogmatism as the dualist interactionists whom he dismisses. 'Idealism', for example, he is happy to 'write off without more ado' in a couple of lines, as 'incompatible with physics, chemistry, molecular biology and social science'. The widely held view that the organic and mental are diverse aspects or manifestations of a single entity 'has yet to be formulated clearly and in agreement with the natural sciences . . . We may therefore dismiss [it]'. By contrast with this kind of high-handedness, even the most exuberant of Eccles' apologies for interactionism seems positively undogmatic; and the austerely calm and scholarly discussion of the same issues by Popper is doubly impressive.[179]

It was this charge of dogmatism that seems to have upset Bunge. After all, MacKay had written several overtly Christian books, and that, to Bunge, appeared to be dogmatism of the purest form.

Though we will discuss the position that MacKay puts forward in much more detail in chapter 4, for now, it will be sufficient to say that this rather intense exchange with Bunge seems to have motivated MacKay to participate a little more enthusiastically in the philosophical discussion—particularly as it directly related to the discipline of neuroscience.

B. The Sperry Exchange

The year after Bunge published his scathing letter, Roger Sperry decided that the time had come to publish a record of the changes he had made to his position on the mind/body problem since his important 1952 paper we discussed earlier.[180] In particular, Sperry seems to have had it in mind that the record needed to be set straight as to the degree to which current theories (particularly the positions

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[179] (MacKay 1978h) p. 600

[180] (Sperry 1952)

expressed by Popper and Eccles) depended upon his own (Sperry's) theories. The result was a not-particularly-clear defence of a position he called 'mentalism'.

It would be quite safe to say that Sperry's mentalism did not have nearly as important an effect on the broader discipline of mental philosophy as his 1952 work did. In his response to the whole series of papers on the mind/body problem published between 1977 and 1981 in *Neuroscience*, J. J. C. Smart offers a concise analysis of Sperry's work to which any who are interested in mentalism would be advised to refer.[181] For our purposes, it will be sufficient to note that Sperry's paper, as Bunge's before it, served the purpose of prompting MacKay to publish a clarification of his own view—showing how it contrasted with other positions being considered.

Somewhat ironically, in 1980 MacKay published not only his response to Sperry's mentalism paper, but also (with his wife, Valerie—who had completed her PhD several years earlier) the findings of his research as Fairchild scholar at Sperry's lab in California. Evidently, Sperry and MacKay had developed a working relationship at a Vatican brain science conference organised by Sir John Eccles in 1965[182] and had worked together sporadically ever since.[183]

In addition to his exchanges with Bunge and Sperry, MacKay was to publish eleven more works in which he spelled out his position on the mind/body problem in philosophical and theological terms[184]—not least of which was his set of Gifford Lectures presented only months before his death.[185] A brief examination of his list of publications, however, underlines the fact that even in this final phase of his life, MacKay saw himself more as a scientist than a philosopher. After all, while he did write twenty works[186] explicitly for Christian readers in addition to his eleven works

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[181] (Smart 1981)

[182] See (Eccles 1966)

[183] For more detail on the relationship between Sperry and MacKay, as well as a fuller comparison of their respective positions, see (McDonald 1994).

[184] (MacKay 1991b; MacKay 1987e; MacKay 1983e; MacKay 1982b; MacKay 1981a; MacKay 1980a; MacKay 1979a; MacKay 1985b; MacKay 1985d; MacKay 1983c; MacKay 1985a)

[185] (MacKay 1991b)

[186] (MacKay 1989; MacKay 1978f; MacKay 1978b; MacKay 1987a; MacKay 1987h; MacKay 1987i; MacKay 1986a; MacKay 1986d; MacKay 1984g; MacKay 1984a; MacKay 1982e; MacKay 1980i; MacKay 1978a; MacKay 1978e; MacKay 1985c; MacKay 1979c; MacKay 1978g; MacKay 1984e; MacKay 1984f; MacKay 1988a)

on the mind/body problem, he also wrote thirty-nine works[187] during the same time period which were of a strictly empirical nature as well as thirteen scientific papers[188] of a more theoretical nature.[189]

Between 1977 and 1986, as MacKay became more directly involved in the debate over the mind/body problem than he was at any other time in his career, other philosophers took up positions similar to those we saw presented by the identity theorists and their early critics. D. M. Armstrong and David Lewis took up a position that is more or less a cross between the identity thesis of Place, Feigl and Smart and the neurological behaviourism presented in Sperry's 1952 paper. They call their theory 'The Causal Theory'.[190] While Hilary Putnam's functionalism has been taken up by a wide variety of thinkers from Jerry Fodor to Daniel Dennett,[191] Paul and Patricia Churchland have become far and away the most notorious defenders of a slightly more sophisticated version of Feyerabend's eliminative materialism.[192]

Since MacKay's untimely death in 1987, just months after he received honorary degrees from St. Andrews University in Scotland[193] and Gordon College in the United States and presented his Gifford Lectures at the University of Glasgow,

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[187] (MacKay 1986c; Hammond and MacKay 1985; MacKay, MacKay, and Rulon 1986a; MacKay and Hammond 1981a; MacKay 1983f; MacKay and MacKay 1982b; MacKay 1981b; MacKay 1981d; MacKay 1980d; MacKay 1980h; MacKay 1981c; MacKay 1978i; MacKay 1978d; MacKay 1986e; MacKay, MacKay, and Rulon 1985; MacKay 1985f; MacKay 1984d; MacKay 1979b; MacKay 1978j; MacKay, Gerrits, and Stassen 1978; MacKay and Hanly 1979; MacKay and Hammond 1978; MacKay 1980c; MacKay 1980e; MacKay and MacKay 1980; MacKay and Hammond 1981b; MacKay and MacKay 1982a; MacKay and Lund 1983; MacKay and Hammond 1983a; MacKay and Hammond 1983b; MacKay 1982a; MacKay 1983d; MacKay 1984j; MacKay 1984k; MacKay 1984c; MacKay 1984l; MacKay and MacKay 1985; MacKay, MacKay, and Rulon 1986b; MacKay and Ludwig 1986)

[188] (MacKay 1988b; MacKay 1978k; MacKay 1987g; MacKay 1983g; MacKay 1982d; MacKay 1980b; MacKay 1980g; MacKay 1978c; MacKay 1984h; MacKay and MacKay 1992; MacKay 1987c; MacKay 1987j; MacKay, Skinner, and Buckley 1989)

[189] It should also be mentioned that MacKay wrote quite a few important review articles and encyclopaedia entries during this period of his career as well, among which are the following: (MacKay 1987l) (MacKay 1986b; MacKay 1983a; MacKay 1983b; MacKay 1983h; MacKay 1982c; MacKay 1985e; MacKay 1985g; MacKay 1984b; MacKay 1984i; MacKay 1984m; MacKay 1979e; MacKay 1987k; MacKay 1987b; MacKay 1987d; MacKay 1987f; MacKay 1987m)

[190] For a short, readable introduction to the causal theory, see pp. 81-91 of (Armstrong 1999).

[191] See pp. 101-110 of (Armstrong 1999) and the collection of papers on pp. 47-147 of (Lycan 1990).

[192] See, for example, (Churchland and Churchland 1998) and (McCauley, Churchland, and Churchland 1996) as well as section 4 of (Lycan 1990).

[193] See picture # 6.

confusion and disagreement over the mind/body problem has shown little sign of reducing. If anything, the field has broadened somewhat, as more religiously inclined philosophers have entered the discussion with an overt interest in preserving the credibility of life after death. As Kevin Corcoran remarked in his introduction to a recent collection of essays on the mind/body problem:

> Is there a convergence of answers on the horizon? It would appear not. For there are at present many answers and not all fall neatly into the two mutually exclusive views commonly discussed: Cartesian dualism and reductionistic physicalism. Nor is it obvious, despite what we may have been inclined to think, that physicalism with respect to human persons is incompatible with the doctrine of post-mortem survival. If anything is clear after reading the essays in this volume, it is this: the mind-body problem remains wide open.[194]

As we move into the next section of our study, in which we will attempt a reasonably systematic exposition of MacKay's understanding of the relationship between the mind and body, it will be important for us to remember that our goal will *not* be to *solve* the mind/body problem once and for all. The best we can hope to do in the pages that follow is to present a clear account of a view that has not previously received the level of scholarly attention that it deserves.

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[194] (Corcoran 2001) p. 11

Chapter 3: Complementary Descriptions

Of all the many roles played by Donald MacKay during his fourty-four years as an academic, the role of detached, abstract theoretician was one for which he never seemed to have time. As should soon become clear, this was not because he never engaged in abstract theorising; it was just that his theories were always anything but detached. After all, MacKay remained a devout Christian throughout his life, despite being professionally involved in the three academic fields thought at that time to be the most hostile to traditional Christianity—theoretical physics, brain science, and analytic philosophy. His ability to learn from and apply knowledge from such seemingly disparate bodies of knowledge was no accident. On the contrary, his extraordinary interdisciplinary success was the direct result of his elegant though somewhat controversial understanding of complementary descriptions.

Though the idea underlying MacKay's complementarity is at least as old as the philosophical theology of Francis Bacon (1561-1626), not all of its proponents have been as clear or as disciplined as MacKay in the final presentation of their theories. Ironically enough, MacKay's generation of scholars appears to have been particularly prone to misunderstanding the concept of complementary descriptions. The provocative work of Nils Bohr (1885-1964) no doubt, was the primary cause for this confusion. Bohr's demonstration that the particle and wave models of sub-atomic activity enjoy a complementary relationship provided a clear example of how seemingly disparate descriptions can increase our understanding of a single event. Unfortunately, this example may have been *so* clear that it was unhelpful beyond the narrow field of theoretical physics. Just as a massive physical object (like a dense planet) curves its region of physical space, it appears that the intellectual importance of Bohr's theory may have bent the logical space surrounding the idea of complementarity. We would be wise to keep this warning fresh in our minds as we proceed into our investigation of MacKay's logical notion of complementary descriptions.[195]

After a preliminary study of MacKay's understanding of complementary descriptions and a brief look at some prominent misunderstandings, we will discuss MacKay's

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[195] We will address the complications arising from too closely associating MacKay and Bohr in much more detail below in our discussion of Bedau's objection to MacKay.

equally controversial application of this theory to the mind/body problem on the one hand and the freedom/determinism problem on the other. Because these topics are so controversial, we must be constantly on our guard against misinterpretations. We will benefit from MacKay's long and faithful labour towards the production of a theological anthropology—informed not only by the Bible and Church tradition, but also the recent dramatic discoveries made by modern physicists, brain scientists and philosophers— only if we consistently resist the urge to jump to conclusions, and trace his arguments slowly, thoughtfully, and faithfully. We are assisted in this endeavour to remain sober in our assessments of MacKay's work by others, who have succumbed to the controversy and published criticisms before the view they were critiquing was fully understood. We will make use of these prominent misunderstandings and D. M. MacKay's responses to them to the greatest extent practical.

I. MacKay's Complementarity Stated

Though the most widely published statements of MacKay's complementarity were set in a debate context,[196] we will delay our discussion of these debates until after we have seen what MacKay has to say about complementarity when he is not being questioned on any specific detail. We will start with his 1955 paper 'Man As Observer-Predictor', then proceed to his 'What Makes a Contradiction', written in 1968. After we have discussed these two foundational works, we will seek to answer a few remaining questions, referring to a range of papers written between 1968 and MacKay's death in 1987.

A. 'Man As Observer-Predictor'[197]

MacKay's paper 'Man As Observer-Predictor' was presented to the Tenth Present Question Conference, held in July 1954, Lady Margaret Hall, Oxford. In this paper, MacKay introduces his understanding of complementary descriptions as he describes

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[196] We will treat the three papers that MacKay himself refers his readers to most often for a more detailed treatment of complementarity ((MacKay 1957b; MacKay 1958a); and (MacKay 1974c)) in the latter half of this chapter. The main reason we will delay our discussion of them is that they are all three set in a debate context. Additionally, it is worth noting that one cannot infer from the fact that MacKay referred to these papers most often that he necessarily thought they were the most clear or complete. After all, it may well be that he referred to them simply because they were available to a wider number of people.

[197] (MacKay 1955c)

the peculiar role that scientists must play with respect to the situations they study. He first defines this role in opposition to the two other broad types of roles that people often play in their relationships with the rest of the world, namely 1) subject-in-dialogue, and 2) observer-participant.

In dialogue, there is little difference between the roles played by different types of participant, and detachment is seen more as an obstacle than an aid to the purity of the relationship. The observer-participant role, perhaps exemplified most beautifully by the parent teaching a child how to walk or ride a bike, is different from the role of a subject-in-dialogue in that some degree of detachment is required to sustain the observer aspect of the relationship. It is only in playing out the role of observer-predictor, however, that complete and utter detachment is required.[198] Though this role has proven extremely profitable with the rise of modern science, it is a challenging role to play in at least two respects: 'The first problem . . . is that of withdrawal, of reducing participation to a minimum. The second problem is the problem of defining a *language*, a connected set of ideas suitable for the detached viewpoint he has chosen.'[199]

Both of these problems are aggravated not only by our normal desire to participate in the situations we observe, but also by the degree to which such participation is explicitly unavoidable. As MacKay rightly points out:

> The scientist requires something to happen (visibly, or detectably in some other way) in order that he can say anything about the system he is observing; and for something to happen in his observing equipment, energy must pass to it from the system he is observing. So he must interact with the situation; but his problem is to interact with it as little as possible, so as to be able to make a description of what it would have been like if he had not interacted.[200]

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[198] For more on the technical reasons for the necessity of this detachment, MacKay points us to Karl Popper's 1950 paper 'Indeterminism in classical and quantum physics' (British Journal for the Philosophy of Science, 1, pp.117-133 & 173-195). MacKay gives us the gist of this article with the following statement:

> The point is this, that if you have a predicting, calculating mechanism or human being, such a predicting mechanism cannot possibly predict exactly the future of any system which includes itself. The reason is that if you try to make it allow for the effect of its predictions on the system, it needs to know the prediction before it can calculate what effect this will have, and you simply set it chasing its own tail (p. 16).

[199] Ibid., p. 17

[200] Ibid., p. 17

The Heisenberg uncertainty principle is one notorious reminder of the fact that observation is physically impossible without *some* degree of participation, and that that participation is not *always* negligible.[201] As a result of this limitation in our ability to reduce the affects of our observation, it is necessary for us to take extreme care that our language accommodates these difficulties to the extent that such difficulties arise. In the case of Heisenberg-uncertain events, the very low threshold of negligible participation has made the complementarity language of Nils Bohr and his followers unavoidable.

But quantum physics is not the only field in which this normally negligible degree of unavoidable participation demands abnormal linguistic rigor. Because every conscious human being who participates in critical thought 'amplifies the effects of observations',[202] we must also be very careful to take the effects of our observations into account when we study human beings. Thus, philosophical anthropology needs a correlate to Bohr's complementarity. Before we begin jumping to conclusions, however, we should take care to acknowledge the differences between the effects of observation in quantum physics and the effects of observation in philosophical anthropology. MacKay introduces his section titled 'The Scientific Study of Man' with the following observation:

> In the case of the atom, you remember, the trouble was that the system was so small that the least disturbance we could give to it in observing it knocked it appreciably out of course. Now man of course is a large animal, a good deal larger than a billiard ball, and certainly we do not expect the same kind of unpredictability to apply in the case of man as applies in the case of the atom. In fact, I would like to say in passing that I think we ought to beware of stressing the implications of

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[201] For those of us not formally trained in theoretical physics, MacKay offers the following non-mathematical explanation of how this works:

> If we are observing a billiard ball, then you might think that in a sense we do not disturb it at all, unless you remember that in order to see it we have to bounce light off it; and bouncing light off something gives it a tiny but definite impact, knocking it in a direction in which it would not have moved if we had not shone light on it. So although a billiard ball, being large enough, takes the impact of the light pretty well in its stride, when we try to observe an atom by shining light or X-rays on it, we may in fact disturb it to an enormous extent, and this results in the famous 'Uncertainty Principle' of Heisenberg (Ibid., p. 18).

Though this explanation would be a gross oversimplification if we were wanting to study quantum physics (it seems, for example, that it is really the *observation* of the particle, rather than the mere bouncing of light off it, that results in the collapse of the wave function), it is sufficient to make the epistemological point that his paper highlights.

[202] Ibid., p. 20

> Heisenberg's uncertainty principle in the case of human beings; above all I do not think it provides the true answer to the old problem of free will and determinism.[203]

Lest one think that the dissimilarities between the events described by quantum physics and the events described in the scientific study of humanity make analogies of the sort we made above invalid, however, we should remember that there are important similarities as well. We simply need to be very cautious to remember that our analogy holds only so long as the similarity holds—and the similarity between quantum physics and philosophical anthropology resides precisely in the fact that in both situations the effects of observation cannot always be reduced to a negligible level. MacKay makes this point in his own words as we continue reading from the passage quoted immediately above:

> But the trouble with man as a scientific subject is that he is himself, of course, an observer: that the system being observed is itself an observer. The scientist studying man, then, is dealing with a sensitive system, in the sense of a system which *amplifies* the effects of his observations. However little you disturb a man by observing him, if the man knows that he is being observed this may have a large-scale effect, so that the man magnifies the effect of your disturbance on him. In engineering jargon, there is 'feedback' in the situation.[204]

The effects of our observation of human beings may manifest itself in any number of ways, but the most important for our purpose (and the most closely analogous to the situation in quantum physics) is that a difference in approach to the subject matter directly leads to a difference in the kinds of valid observations that can be made.[205]

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[203] Ibid., p. 20

[204] Ibid., p. 20 (italics his)

[205] This point was made by MacKay much earlier (though its tangential relation to his thesis did not allow a full treatment) in one of his first philosophical papers ((MacKay 1951d)). In this paper, he said:

> The situation is not a symmetrical one, but the concept of complementarity whose value we have been led to recognise in physics appears to have an analogue here that would repay development. The dualism of wave and particle in physics is resolved neither by arbitrary denials of 'reality' nor by 'explanations' of one as 'nothing but' an aspect of the other. The process of description is seen as a selective or projective operation; and it is not so much the validity but the appropriateness of a description which requires to be discussed in any given situation. Paradoxes arise when concepts defined for one logical background are mixed carelessly with those defined for another. Descriptions in terms only of one group or the other may both be valid. It is not the descriptions which are exclusive, but the logical backgrounds in terms of which they have meaning. The moral is obvious, and seems to admit of large-scale transfer to other fields of thought (p.118).

In particular, there are some types of anthropological observation that necessitate the role of observer-predictor and others that expressly preclude it.[206]

With regard to the problem of appropriate language, we said earlier that philosophical anthropology needs a correlate to Bohr's complementarity. Now we must acknowledge that to some extent, such a correlate already exists. Instead of the physical duality between particle and wave, however, the study of humanity has required us to acknowledge a duality between people-as-objects and people-as-subjects. This distinction has traditionally been made in the language of physical properties versus mental properties. Just as utter confusion results from failing to acknowledge the fact that 'situations in which light behaves like waves are different from those in which light behaves like particles' in quantum physics,[207] the hapless blurring of mental and physical categories in philosophical anthropology results in utter meaninglessness.[208]

While we will discuss the relationship between mental properties and physical properties in much more detail when we discuss MacKay's views on the mind/body problem, for now it should suffice to say that according to MacKay, the source of the mind/body problem is essentially grammatical. After all, the admission of a need for both mental and physical language to adequately describe human beings is not enough. We also need to know when one language as opposed to the other is justified. This, according to MacKay, is the source of the problem. Traditionally, mental language was thought to be justified only when it was needed to fill 'holes' or 'gaps' in physical explanations. MacKay believes this to be a fallacy—a fallacy that 'arises from a mistaken view of the relationship between the two languages'.[209] The

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[206] The point for philosophical anthropology is importantly different from its quantum physical analogue in that the quantum physical *events observed* are actually different depending on how you observe them. While this is also true to some extent for philosophical anthropology (here MacKay reminds us that studies on worker productivity have actually altered worker productivity and Gallop Polls have seemed to change the outcome of Presidential elections) the most important aspect of complementarity for philosophical anthropology is *logical* rather than *physical*, resulting not in a difference in the *events* observed, but what *valid descriptions* of those events can be formed from different observer approaches. This distinction should become clearer as our discussion continues. The analogy with quantum physics is simply that in both cases the approach of the observer determines what modes of description are valid (i.e. the explanans must be suited to the mode of observation as well as the explanandum).

[207] Ibid., p. 19

[208] Consider, for example, statements such as 'He suffered a gunshot wound to the mind,' or 'Her brain is angry.'

[209] Ibid., p.23

essence of MacKay's logical complementarity is that the validity of one type of description does not imply that no equally valid description exists of another type.[210] To illustrate this kind of complementary relationship, MacKay asks us to think of a marquis sign on which a scrolling message is displayed by means of the ordered flashing of many individual lights. He explains this illustration in the following way:

> Roughly, the point I want to stress is that the terms in which a question is posed determine the language in which an answer can be sought. If we want to know why lamp number 57 is out, then by asking the question in those terms we invite an answer in electrical language. Conversely, if somebody is ill-advised enough to put up an erroneous statement in electric lamps, it is no good accusing the electrician of incompetence. It is not an electrical defect. The question—what is wrong with this advertisement?—is not answered in electrical terms.[211]

Though he leaves many of the implications of this analogy unsaid, the moral should be plain. If we approach the sign as a thing displaying language-like-ours, that is what we find, and we participate with it in a linguistic event. If, on the other hand, we approach it as nothing but a mechanically related system of glass and wires, all we observe is a complex of randomly flashing lights. Clearly, these differences in approach lead to vastly different understandings of the event that takes place as the marquis sign carries out its normal function.

Furthermore, when moving from the electrical to the linguistic descriptions of the event, what is needed is not more data from the event being described (as if there were some 'gap' in the electrical description into which the linguistic description fits) but a new approach to the data already available. The fact that we as human beings can play a variety of roles in our approach to any given situation (dialogue, observer-participant, and observer-predictor, for example) requires us to develop a language that is sufficient to keep information gained from these various approaches appropriately indexed. As we have already pointed out, without such indexes even common-sense observations are muddled into meaninglessness.

We should also note here that this discussion of complementarity within philosophical anthropology shows promise not only for the mind/body problem, but

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[210] MacKay believes that the interactionist on the one hand and the eliminativist on the other are both guilty of 'confusing *exclusiveness* with *exhaustiveness*' (p.27).

[211] Ibid. p. 24

also for the age-old problem of free will versus determinism. MacKay foreshadows the work we will discuss later (in chapter 3) with the following comment:

> There is not space here to discuss the bearing of this on the ancient problem of free will and determinism, beyond suggesting that if we take the typical questions which have been posed in relation to free will and physical determinism and sift them for language systems, asking to what language system each term belongs, I think we shall find a good many instances of mixing of terms from different language systems in the posing of these traditional questions.[212]

With regard to MacKay's statement of his understanding of complementary descriptions, however, we will conclude our discussion of this paper by quoting MacKay's own conclusion, in which he says that:

> . . . in any one scientific description of man, as of other systems, we commit ourselves to a choice of standpoint and of abstractive level which is only one among many, and that the validity of descriptions in different language systems must be judged within each language system itself and cannot safely be judged by reference to any description in another language system. This does not mean that the two are totally independent (something must be true in the one language in order that something may be true in the other, and we have come across relationships of necessity between statements in the one language and statements in the other); but the proper criteria of their truth and falsehood are expressed, and can only be applied, in terms of their own language systems. In particular, the validity of any questions of decision, choice and responsibility can be judged, and these questions can be properly answered, only in the language systems of decision, choice and responsibility.[213]

B. 'What Makes a Contradiction?'[214]

Thirteen years after the publication of 'Man As Observer-Predictor', MacKay published another important explanation of his understanding of complementary descriptions. In 1968 the now somewhat difficult to obtain journal *Faith and Thought*[215] published MacKay's short but important paper 'What Makes a Contradiction?'.[216] We must be careful not to mislead in skipping ahead thirteen

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[212] Ibid., p.26.

[213] Ibid., p.28

[214] (MacKay 1968k)

[215] This journal, run by the Victoria Institute, joined with the RSCF (Research Scientists Christian Fellowship) journal in 1989 to form *Science and Christian Belief.*

[216] This paper was re-published posthumously in (MacKay 1988c).

years, however. After all, if we failed to mention the fact that MacKay published at least seventy-five works (including the 21st Eddington Memorial Lecture) during the interval between 'Man As Observer-Predictor and 'What Makes a Contradiction?', it might appear that we merely skipped over a period of relative inactivity. On the contrary, it is only with the fact in mind that considerable debate and helpful application of MacKay's complementarity has been skipped over that we pass to the next major milestone of our discussion. Once again, we must labour the point that this paper was chosen not because it is one of MacKay's most widely published, but because it is one of the few papers in which his theory of logical complementarity is discussed without reference to any specific misunderstanding.

As the title suggests, the main purpose of this essay is to explore what we mean when we say that two statements are contradictory. In particular, it offers an explanation of how we are to know the difference between a set of contradictory statements and a set of complementary statements. While we have seen that 'Man As Observer-Predictor' focuses primarily on the relationship between descriptive statements and the perspective from which they are valid, 'What Makes a Contradiction?' focuses on the relationship between the logical status of various descriptions and the ontological status of the subject of those descriptions. More specifically, MacKay's thesis in 'What Makes a Contradiction?' is that the distinction between complementarity and contradiction depends primarily on the truth value of additional premises (often implicit) concerning the dimensionality of the thing described. He argues that to properly understand this distinction we must attend to the nature of the thing described as well as the nature of the descriptions.

He begins his analysis with the following analogy from mathematics:

> Suppose that in coordinate geometry we define two points P and Q, and give both of them the same coordinates (x,y). . . Does this definition of P and Q *contradict* (i.e. rule out, as impossible) the statement 'P and Q are not at the same place'? The answer is of course *Yes*, if P and Q are defined as points *in the same plane*; but otherwise, *No*. Once we admit the possibility of a third dimension, the contradiction vanishes. [217] (p.7-8)

We see in this example that if the two statements in question were not properly indexed for dimension, we would have an apparent contradiction. On the other hand,

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[217] 'What Makes a Contradiction?', pp.7-8

when the two statements *are* properly indexed for dimension, the complementary nature of the relationship is unproblematic. This point may be further clarified by thinking about the following two sets of statements—both of which describe MacKay's example, though one neglects the dimensional index while the other makes it explicit:

1. P and Q share spatial coordinates.
2. P and Q are not in the same place.

1*. P and Q have the same coordinates in plane X.

2*. P and Q have different coordinates in plane Y.

It is obvious that statements 1* and 2* are complementary, while 1 and 2 may give the impression of contradiction. But could the careful reader of 1 and 2 not also avoid the temptation to allege contradiction by recognizing the implicit premise that more coordinates than are mentioned in 1 are available, and that it is in fact these extra coordinates that are being considered in 2?

MacKay thinks that this kind of careful reading is not only possible, but also what it means to treat the statements judiciously. He says, 'Readiness to expand our descriptive frame in obedience to fresh data is in fact what is meant by the essential humility of science'.[218] Once this point is accepted, we are in a better position to understand the difference between contradiction and complement. MacKay states this difference in the following words:

> *An apparent contradiction, both of whose terms are supported by experience, is the logical indicator of an unsuspected dimension.* Conversely, it is impossible conclusively to settle the question whether two statements about the real world are contradictory by appeal to logic alone. Proofs of contradiction are always relative to some assumption about the 'dimensionality' of the descriptive framework, in a generalized sense.[219]

While this idea may sound radical in the face of traditional logocentrism with its wide claims as to the univocality of statements about the 'same things', multidimensionality is a fact that we reckon with non-linguistically in literally every normal perceptual event. After all, when slightly different information is gathered by each of our ears, we do not say that we have a contradiction to deal with, but that we

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[218] Ibid., p. 11

[219] Ibid., pp. 8-9. Italics his.

are hearing in stereo. Likewise, when one eye senses the finger held out in front the nose as being 'to the right of' some object in the distance while the other eye senses the same finger as being 'to the left of' the distant object, we do not ask ourselves which eye is trustworthy and which is mistaken. We simply recognize that we are seeing 'in depth'.[220]

When it comes to the project of summarising data in linguistic descriptions, we can eliminate much potential confusion by explicitly indexing each statement, wherever possible, for the dimension or perspective from which the data was derived. This brings us, once again, to the special use of complementarity in quantum physics.

While quantum physics may give the impression of being radically unlike any body of data we have had to deal with before, upon closer observation we find that it is not the *fact of complementarity* that causes us problems, but the *extent to which* complementarity in quantum physics resists our attempts to provide simple *indexes* for the dimensionality of data collected in that field. MacKay reminds us that while we must be careful not to over-generalise the discoveries made in quantum physics, we would also do well to heed the lessons learned in that field with regard to how we can most constructively deal with complementary sets of data. In particular, physics has taught us that 'hard evidence' comes to us in the form of *events* rather than *entities.*[221],[222] In contexts where we suspect that confusion between complementarity and contradiction may be difficult to avoid, we may find it helpful to record our data in event language (using names like 'electron-impact', 'photon-impact', 'obeying-God', 'being-forgiven-by-God', 'being-guided-by-God', and 'being-rebuked-by-

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[220] This illustration from visual perception is repeated many times in MacKay's works from this early work all the way up to his Gifford Lectures, delivered just a few short months before his death. (for this example in MacKay's Giffords, see p. 251 of (MacKay 1991b))

[221] MacKay words this point in the following way:

'It is in fact by tracing our data back to events, and patterns and probabilities of events, that we have discovered how to express the facts of atomic physics without any trace of self-contradiction. This is not, (as some positivists would have it) a matter of *denying the reality* of the entities confronting us, but only a principle of 'conceptual hygiene' to allow our limited experimental knowledge enough room to grow without breeding spurious contradictions' (Ibid., pp. 11-12)

[222] H. H. Oliver ((Oliver 1978)) offers an extension of this idea into a full-blown metaphysic that some readers may find interesting, though he candidly admits that his own project is much more ambitious than MacKay's logic requires.

God') rather than entity language (using names like 'particle' 'God', 'obedience', 'forgiveness', 'guidance', and 'rebuke').[223]

Though this bit of advice may seem somewhat obscure at first, it is important to realise that it is neither new nor intended to solve all our difficulties. That this idea did not originate with MacKay is simple to demonstrate. In fact, before MacKay was even born, Ludwig Wittgenstein proclaimed that 'The world is the totality of facts, not things.'[224] That this bit of advice was not intended to solve all our difficulties is less explicit, though it is suggested by the fact that his appeal to event language is relatively general. He does not, for example, declare all object language pernicious, or argue for the metaphysical position that relationships are ontologically prior to entities. Just as a picture is worth a thousand words, however, MacKay saw value in the fact that an event is typically understood to be more complex than any given set of entities—and in contexts where oversimplification leads quickly to assumptions of contradiction, it is often less misleading to use words that remind us of the complexities involved.

Thus, MacKay sums up the moral of this paper with the following four suggestions:

> (i) In any field of discourse, logic can be used to detect contradiction only when the dimensionality of the descriptive frame has been fixed. Otherwise, every apparent contradiction must be qualified as 'conditional on the non-existence of yet another (logical) dimension in addition to those which we have assumed'.
>
> (ii) In discourse that purports to describe reality, the number of dimensions necessary to do justice to the data of experience must be absolutely open to revision by those data. No event can be held *a priori* to be logically impossible, 'contradictory to fact' or the like. Such claims are strictly nonsensical.
>
> (iii) Where complementary descriptions turn out to be required by the data of experience, it is essential to identify the logical standpoint from which each is defined, as careless mixing of elements valid for different standpoints can lead to confusion.
>
> (iv) It is easiest to see the logical relationship between different data and to avoid spurious conflict if they are expressed in terms of experienced events rather than abstract entities.[225]

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[223] These event-language and entity-language names are MacKay's, taken from pages 11 and 13.

[224] See section 1.1 of (Wittgenstein 1922).

[225] Ibid., p.12

C. A Few Remaining Questions

After MacKay published 'What Makes a Contradiction?', his work in publishing the *content* of his understanding of logical complementarity was essentially complete.[226] Most of his writing on this subject from that point on focused mainly on the *defence* and *application* of those views. In the next section of this chapter, we will look at various papers MacKay wrote in response to specific criticisms of his complementarity. In chapters 4 and 5 we will look at the specific applications of this idea to the mind/body and free will/determinism problems. Before we move into our discussion of these broader issues, however, it may be wise to look at a few of the more immediate implications of his view. The goal of evaluating these 'immediate implications' will be to answer the question, 'How does a proper understanding of logical complementarity affect the way we approach the world?'. We will seek to narrow our discussion by focusing exclusively on the way in which logical complementarity informs our response to the following three questions, all of which figure very heavily in current debates surrounding the issues of religious epistemology: 1) Is the 'methodological naturalism' of natural science a legitimate perspective for a believer to take up? 2) Is it possible to 'translate' information gained from one perspective into the language of another? And 3) Is objectivity a legitimate goal?

The first of these questions goes to the heart of the relationship between science and theology. On the one hand, most would agree that methodological naturalism is a defining feature of natural science. On the other hand, there are many well intentioned Christian philosophers of science[227] who argue that to assume

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[226] Though, as we shall see shortly, there was one very important aspect of complementary descriptions that he allowed to remain rather implicit until his final paper wholly devoted to the subject, which he published in 1974 ((MacKay 1974c)) as a response to the objections of Hugo Bedau ((Bedau 1974)). It should be noted, however, that this paper (originally presented at a conference on "Science and religion: The complementarity hypothesis," Birmingham, England, 1969; originally the proceedings were to have been published with J. Hick as editor) was probably written at about the same time 'What Makes a Contradiction?' was published.

[227] The following quotation from J. P. Moreland's (Moreland 1993) gives a concise introduction to what these thinkers have in mind, as well a clear example of their good intentions and characteristic Aristotelian presuppositions:

> Theistic science is rooted in the idea that Christians ought to consult all they know—including theological beliefs—in forming and testing hypotheses, in explaining things in science, and in evaluating the plausibility of scientific theories.
>
> More specifically, theistic science expresses a commitment to the belief that God, conceived of as a personal agent with great power and intelligence, has through direct, primary

methodological naturalism is nothing less than immoral—epistemologically dishonest at best and at worst a public denial of the faith. While we will deal with this objection in much more detail in chapter 6, for now we will stick to our purpose of explaining the fundamentals of Comprehensive Realism, simply acknowledging the fact that many of our brothers and sisters in Christ have already expressed great interest in the validity of methodological naturalism, coming to a conclusion vastly different from that of the Comprehensive Realist.

The first thing that must be said about the Comprehensive Realist position on this question is that MacKay's doctrine of complementary descriptions at the very least removes some of the steam pressure by admitting that even the most complete description from any given perspective would not necessarily be exclusive. After all, while it must be admitted that if it were impossible to maintain the truth of more than one perspective at once, then to assume the perspective of methodological naturalism would be to deny belief in any form of divine action; once we understand the basics of logical complementarity, we can recognise that the perspective of natural science does not have to be *exclusive* to be *informative.*[228] Further, as a result of MacKay's

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> causation and indirect, secondary causation created and designed the world for a purpose. He has directly intervened in the course of its development at various points (e.g., in directly creating the universe, first life, the basic kinds of life, and humans). And these kinds of ideas can enter into the very fabric of scientific practice.
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> To clarify this further, let me highlight three ways theological beliefs can enter into science. First, theological propositions can provide background beliefs used to evaluate a scientific hypothesis. The theological beliefs that the universe had a beginning and that adultery is sinful and immature can be used to evaluate hypotheses that claim the universe has an infinite past or adultery can be a sign of psychological maturity.
>
> Second, theological beliefs can guide research and yield predictions that can be tested. For example, theological assertions that the basic kinds of life were directly created, that humans arose in the Mideast, and that Noah's flood had certain properties can yield testable predictions: that is, gaps will exist in the fossil record; the earliest human remains will be found in the Mideast; and there will be limits to breeding.
>
> Furthermore, the idea of a direct, creative act of God can be used to explain things that are scientifically discoverable. Science can discover information in DNA, that the universe had a beginning, that human language is unique—and theology can provide explanations for these discoveries.

[228]And the plan of action should always be suited to the task at hand, as MacKay so aptly argues in the following selection:

> . . . to integrate honestly our Christian and our scientific thinking does not mean that we should *adopt the same method* in both. An atomic physicist isn't likely to solve his physical problems by thinking theologically about them; and the method of natural science isn't going to help me very much to understand the method of the New Testament. The man who

doctrine of complementary descriptions, the Comprehensive Realist recognises that the theological perspective does not require that 'room' be made for it in the midst of the reoccurring cycles upon which natural law is founded. This allows us to affirm a dimensional 'depth' to our theological perspective that *under girds* without necessarily *conflicting with* any given naturalistic explanation.[229]

MacKay makes this point clearly in his 1977 Riddell Memorial Lectures delivered at the University of Newcastle upon Tyne.[230] In these lectures, MacKay deals with many provocative issues, including the misleading nature of the natural/supernatural distinction, the absence of legitimate teleology in the world described by objective science, and the role of prayer and miracle in the same world which is so profitably described as a closed system. While his doctrine of complementary descriptions plays heavily in all of these discussions, MacKay's most direct response to the question of whether or not the 'methodological naturalism' of natural science is a legitimate perspective for a believer to take up comes to us in the form of the following comments:

> If the biblical theistic picture is correct, the scientific game of linking events into 'causal chains' can (and indeed should) proceed without bringing in 'God' as one of the links in the chain. For the theist, God comes in as the Giver of all events, not just as a special kind of link between some of them. It is therefore technically possible to practise science in complete forgetfulness of the One who, according to the

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> in the name of intellectual integrity tries to win a wife in the way in which he'd tackle a problem in thermodynamics, has the wrong idea of what intellectual integrity means, and is very likely to remain a bachelor! (MacKay 1953e) (quoted from p. 34 of the re-print in (MacKay 1988c).

[229] Lest one should think that this language implies (as it often does with other writers) that MacKay would be in favour of treating theology as a fully transcendent 'depth language' or something of the sort, it may be wise to mention the following comments, which MacKay makes at the conclusion to his (MacKay 1972c):

> We must thus firmly reject (as both logically and linguistically mistaken) any suggestion that what is meant by biblical doctrines is reducible to bare recommendations of policy or the like; but it must still be emphasised that the way to make clear that they have meaning and relevance may be to focus attention, more than is sometimes done, upon the jobs they are designed to do in those who humbly receive them. If I may put it in personal terms, the aim of those of us who claim to be Christians, in line with the Bible's own insistent emphasis, must be to become much more operational in our thinking and talking about its central doctrines: to see its every statement about God as a tool designed ultimately to make some practical contribution to the shaping of our total state of conditional readiness for what happens to be there to be reckoned with, whether we like it or not. Thus seen, its meaningfulness and relevance will be in no doubt, and the lines along which its truth is meant to be attested will be constructively apparent.

[230] (MacKay 1978g)

> Bible, alone gives being to the data, and grounds for the expectations based on them. There is a 'proper secularisation' of science, as R. Hooykaas has put it,[231] even from a biblical standpoint.[232]

So, the simple answer to this first question seems to be a resounding 'yes'. As long as we remember that one valid perspective does not exclude the possibility of others, we can wholeheartedly work towards the goal of completing a description of the world from the perspective of scientific naturalism without fear that in doing so we will 'explain away God'. MacKay reassures us of this point as we continue the section quoted immediately above:

> What is completely unjustified . . . is the suggestion that successful scientific explanation rationally warrants *disbelief* in the Creator . . . Explanations in terms of links *within* a created world are logically not in contradiction with, but complementary to, explanations in terms of the power and purpose of the Creator of that world.[233]

But isn't there at least *some* evidence gained from the scientific perspective that could count against the legitimacy of Christian theology? Well that depends on how we answer our second question: 'Is it possible to "translate" information gained from one perspective into the language of another?'

The answer to this question will have to be a little more complex than our answer to the first. Rather than a simple 'yes' or 'no', it would seem wise to admit some level of degrees. First of all, we must admit that there is a great deal of difference between saying that *something* must be true from one perspective for something else to be true from another and saying that descriptions formulated from one perspective can be translated *without loss of content* into the language of another perspective. While, as we saw in MacKay's conclusion to 'Man As Observer-Predictor' (quoted above), the latter statement is clearly incompatible with a proper understanding of logical complementarity, the former statement cannot be dealt with so simply. There are some aspects of events that necessarily imply the existence of another aspect and others that do not.[234] MacKay made this point implicitly as early as 1951, when he

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[231] Here MacKay refers to (Hooykaas 1960).

[232] (MacKay 1978g), p.15

[233] Ibid., p.15

[234] We know, for example, that in the case of our marquis sign, for any linguistic story about the event to be valid, there must be at least some valid electrical story. But, on the other hand, the mere existence of some valid electrical story does not imply that there must be at least some valid linguistic description.

said that the relationship between the I-story and the O-story was not a 'symmetrical' one.[235] This feature of complementary descriptions was not fully developed in published form, however, until 1974,[236] where, under the heading 'hierarchical complementarity' he elaborates on this asymmetry with a discussion of several examples.

As we shall see in Chapter 4, this hierarchical nature of complementary descriptions is very important for the Comprehensive Realist understanding of the mind/body problem. There we will argue that this feature of complementary descriptions elegantly and efficiently serves the same function as the confusing and cumbersome 'supervenience' model that is discussed so frequently in modern philosophy of mind. Our purpose here, however, is simply to investigate what it was that MacKay was saying.

We have seen that while no description can be 'translated' from one complementary perspective to another without any loss of meaning, there are at least *some* descriptions that necessarily imply the truth of some rather specific complement. But how are we to know when the kind of 'rough translations' we seem to be suggesting are valid—and what they might look like in the first place?

With regard to this first question, MacKay tells us that the question of whether or not a descriptions from one perspective necessarily implies some other description from another perspective is essentially an empirical one.[237] Just as when we see a heavy object suspended in the air, the regularity of our experience has led us to infer that there must be some force holding it there (i.e. the law of gravity is empirically justified), so, when we look at our digital watches and read the correct time, we correctly infer that our watch batteries have not yet run down (i.e. the hierarchical relationship such that if some linguistic story is true in this kind of event, some electrical story must also be true is likewise empirically justified).

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[235] (MacKay 1951d) p. 118

[236] See footnote 31 above.

[237] On page 230 of (MacKay 1974c), we read:

> . . . cumulative experience that it makes sense in practice may sometimes offer the best evidence for the validity of a perceptual standpoint—as, for example, in our recognition of other people's activity as personal and conscious.

But, moving on to the second part of this question, we must also warn against expecting too much out of these kinds of 'rough translation'. Rather than talking in terms of translation, it would seem more appropriate to demand that all data be perspectivally indexed with the general understanding that we can expect some varying degree of reciprocity between perspectives. This seems to be the point MacKay is getting at with the following helpful extension of his binocular vision analogy presented in his Riddell Memorial Lectures:

> The example of binocular vision suggests that our best hope of achieving some integration will be to absorb what we can of each projection *when we ourselves are in the appropriate situation* for that projection, and to avoid the mistake of trying to absorb a projection 'from the wrong angle'—i.e. in a situation for which that projection does not apply . . . If we want to see-in-depth, it is essential to ensure that each eye sees *only* the view appropriate to its situation, and not the other. To rig up a system of mirrors so that both left- and right-eye views were projected into the same eye would be senseless. It would simply generate a perceptual pseudo-conflict and frustrate the integration we say we want to achieve. The basic point is that with a multidimensional situation the projection from one standpoint *is not valid information* from another (exclusive) standpoint.[238]

But then, some will ask, where does all this leave us with respect to our ancient pursuit of 'the God's-eye view' of reality? Is it not our duty as intellectuals to seek to 'think God's thoughts after him'? In light of MacKay's understanding of logical complementarity, is objectivity even a legitimate goal? The simple answer to this last question is a resounding 'yes!' On this point, MacKay is very clear. Not only does he devote an entire section of his 1977 Riddell Memorial lectures to objectivity,[239] but he also published two essays[240] on the subject as late as 1987 (the

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[238] (MacKay 1978g), pp.48-49

[239] Perhaps the statements in this section that are most relevant to our question here are as follows:

> Let it be admitted, at least for the sake of argument, that what I would be correct to believe about the world must differ in some particulars from what you would be correct to believe. Still if the flood of experienced events that you and I each encounter day by day owe their being to one and the same Creator, *he* at least is in a position to know what each of us would be correct to believe, and mistaken to disbelieve, about our world. This, for the Creator, is a matter of objective fact. If he has placed you and me in different relationship to a particular situation, the *differences* between what each of us would be correct to believe about it will be equally for him a question of objective fact. True, our scientist in God's world may have no access to the Creator's eye view of his situation; but because he knows that he is under judgement by that criterion, he is saved from the trap of confusing relativity with a denial of objectivity. (p. 19).

[240] (MacKay 1987h; MacKay 1987i)

year he died). In the conclusion to one of those 1987 essays, he makes his point elegantly and precisely. He says:

> Relativity theory may suggest that the aspects of this reality encountered by different observers can differ in detail, but this in no sense implies that 'there are as many realities as there are observers'. It means only that there are as many *aspects* of objective reality as there are different observer-standpoints from which to reckon with it . . . the ultimate standard of objective reality, however inaccessible to us, is the way its Author sees his creation. His view embraces all dimensions of reality—more than any one observer can perceive. To him, any differences in the aspects that face each observer are no threat to objectivity, but merely part of what happens to be the case, objectively, about the world he holds in being.[241]

By way of summary, it may be wise to try to generalise what we have learned. We find MacKay's most general answer to the question 'How does a proper understanding of logical complementarity affect the way we approach the world?' in the conclusion to the first of his Riddell Memorial Lectures. Though he uses the word 'scientist', his advice is helpful for anyone who desires to make sense of the bustling booming web of multiple reciprocities we call life:

> In summary, then, a scientist in God's world, who knows and loves the Author of it, can rejoice equally in the growth of the explanatory structure of science, and in any surprises that may shake it. For both he returns thanks to the same Giver, recognising his obligation to do justice both to the normal coherence of the flux of created events, and to its moment-by-moment contingency on the divine fiat. His mind will be open but critical, rational but not rationalistic, realising that the God of truth is even more concerned than he is that he should not swallow falsehood—but also that he should not disbelieve what is true, however unexpected . . . His one desire must be to do the fullest justice to all the data given him by God, to whom he will be accountable for keeping the record straight.[242]

II. MacKay's Complementarity Debated

As we mentioned at the beginning of our discussion, the apparent simplicity of MacKay's ideas can be deceiving. The temptation to jump to conclusions with regard to these issues has caused even some of the finest thinkers to publish criticisms before they fully understood what MacKay was suggesting. In the discussion that follows, we will discuss the two most instructive of these

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[241] 'Objectivity in Science', p. 56

[242] Ibid., p.20

misinterpretations, in the hopes that in getting clear about what MacKay did *not* mean, we will better understand what he *did* mean.

A. Alexander Exchange (1956-1957)

The earliest and perhaps most important critical misunderstanding of MacKay's logical complementarity was written by Peter Alexander in 1956.[243] This very sophisticated misunderstanding of MacKay's philosophy was published in the journal *Mind*, edited by Prof. Gilbert Ryle with the help of Sir F. C. Bartlett and Prof. C. D. Broad (all early heroes in mental philosophy). MacKay helpfully but briefly responded with his 'Complementary Descriptions (reply to Alexander)'.[244]

1. Alexander's Criticism

At the heart of Alexander's critique is his distinction between alternative and complementary descriptions. As we shall see, Alexander uses the narrowly defined terms 'feature' and 'situation' (among others) to get himself and probably most of his readers in a very sophisticated confusion from which MacKay appears guilty of equivocation.[245] But perhaps we would do better to treat Alexander's case one step at a time—in the fashion he presents it.

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[243] (Alexander 1956)

[244] (MacKay 1957b)

[245] To Alexander's credit, it seems that his misunderstanding is largely the result of his attempting the very difficult task of developing a complete theory from but a few of MacKay's briefest suggestions. Alexander's paper was published in April of 1956, which means that there was probably no way for him to have seen any of the papers we have just discussed (remember that the earliest, 'Man As Observer-Predictor' was only published in 1955—when Alexander had probably already finished writing his critique). Alexander explains that his interest in this matter was sparked by 'some almost incidental remarks made by Dr. D. M. MacKay at the end of his contribution to a symposium, 'Mentality in Machines', at a Joint Session of the Mind Association and the Aristotelian Society' (p. 146). The comments that he seems to be referring to can be found in the final three paragraphs of that paper:

> 'Let us equally explicitly recognize, however, that this kind of demonstration cannot prove such an artifact to possess mentality in the full human sense. It shows only that *as far as we can find words for tests* we can expect these to be met. It would show more appropriate humility to leave open the question whether now or at any time, or even in principle, we shall be able to exhaust or even to become aware of all features of our experience from which we abstract the concept of mind.
> The situation has a parallel in theological history, where those who saw God only through what loop-holes were left by our ignorance of physics (a "God of the gaps") were I think equally at fault in their underlying assumptions with those who smothered the gaps with faith in Science (with a capital S) and declared God non-existent. We shall not "save" the concept

Alexander summarises the view that he wishes to investigate with the following statement:

> Stated briefly the theory is that it is sometimes necessary to give two apparently inconsistent descriptions of a thing or situation, but that the appearance of inconsistency is removed when we see that the two descriptions are complementary and both needed for a full understanding of the thing or situation, and that it is a logical mistake either to mix the language of the two descriptions or to suppose that either will refute the other.[246]

Alexander proceeds to spell out the only two kinds of circumstance in which he thinks different descriptions can refer to the same 'thing or situation'. In the first kind of circumstance, the descriptions are said to be alternatives, and only in the second can they be called 'complementary'. This distinction is important to Alexander's criticism because the force of his argument is derived from it. His main complaint is that for MacKay's doctrine of complementarity to do all that he says it does, MacKay's 'complementary descriptions' must at some times act like alternatives while at other times acting like complements (i.e. the doctrine of complementary descriptions only achieves its desired ends by disguising equivocation).[247] For this reason, we will first explore the way in which Alexander differentiates between 'complementary' and 'alternative' descriptions, then we will seek to understand why he thinks MacKay must vacillate between the two, and finally discuss Alexander's proposed remedy to the situation.

> of Mind by hunting restlessly for "something you won't be able to explain in terms of mechanism"—for a false assumption is implicit in the use of the word "explain." As in the parallel case of 'science and religion', the activity is not one of exhaustive *explanation*, but of complementary *description*. Each description one should expect to be exhaustive in terms of its own categories; but to apprehend the whole requires a discipline in the perception of complementarity which we have scarcely begun to acquire (MacKay 1952a) p.86
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> The only other work Alexander refers to in his discussion of MacKay is a popular talk produced by the BBC (Alexander refers us to *The Listener*, 11th September, 1952).

[246] Ibid., p. 145.

[247] This complaint is expressed by Alexander in the following paragraph:

> Now the words 'alternative' and 'complementary', as I am using them, are mutually exclusive, since two descriptions either are or are not transferable. For a given pair of descriptions we must decide between the two words. MacKay and Coulson do not appear to have done this and oscillate between the two conceptions. Their use of the word 'complementary' seems confused. It may turn out that the reconciliation of religion and science along these lines, to obtain the advantages sought requires both conceptions so that one inconsistency would be removed only at the cost of introducing another (p.150-151).

a) Alexander's 'complementary'/'alternative' distinction

With regard to alternative descriptions, Alexander says:

> . . . one description can, in principle, deal with all the features of the thing or situation with which another description can deal, but one is more appropriate or more useful or less misleading in certain contexts. Both descriptions deal with the same features. In this case, one description is, or should be, an exact translation of the other and only one of them is *theoretically* necessary.

Complementary descriptions, on the other hand, require a different kind of circumstance. The type of circumstance to which complementary descriptions might apply Alexander describes in the following way:

> The thing or situation is complex in such a way that certain of its features cannot, in principle, be dealt with by one sort of description, while certain other features cannot be dealt with by another sort of description, so that both descriptions are needed to deal with all its features and no single description can be found to replace them. Here one description can truly be said to complement the other to give the full description and they can properly be called 'complementary'.

From these definitions, it would seem that the clearest way to differentiate between complementary and alternative descriptions of any given situation is that complementary descriptions must (and alternative descriptions must *not*) introduce at least one novel feature. With regard to our interest in MacKay's thinking, Alexander's distinction would not initially seem overly problematic. At least, for our present purposes, it would seem wise to bracket any initial worries we may have regarding the wording of Alexander's definitions. After all, the part of Alexander's argument that requires the strongest proof is his claim that MacKay must illegitimately vacillate between calling the same set of descriptions 'complements' and 'alternatives'.

b) That MacKay's 'complements' must also be 'alternatives'

The source of Alexander's belief that MacKay's complementary descriptions must also be treated as alternative descriptions seems to be MacKay's insistence that scientific and religious descriptions refer '*to the very same data*'.[248] The only way different observers can refer to 'the very same data', as Alexander understands it, is

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[248] Alexander quotes these words from MacKay's appearance in the broadcast series *Science and Faith*, *The Listener*, 11 September, 1952 on Alexander's p. 147 and again on p. 151. The italics are added by Alexander.

for them to refer to all and only the same features—i.e. for them to provide alternative rather than complementary descriptions.[249]

Without treating 'complementary' statements as alternatives in this respect, Alexander argues that MacKay cannot say all he wants to say about the relationship between science and religion. Specifically, without treating scientific and religious statements as alternatives, Alexander argues that MacKay cannot say that science and theology describe the same *things*. While questioning the need for science and theology to share a common referent in this sense, Alexander presents what he understands to be MacKay's motivation with the following statements:

> If we held that the two descriptions were about different situations, this would involve holding that there were some situations with which science cannot deal and that the religious description deals with these. This is regarded as dangerous because the history of science shows the progressive extension of its boundaries, one generation thinking that science cannot deal with *x* and the next generation showing how it can. Thus there is a danger that science will squeeze religion out by leaving nothing for it to describe. So it is tempting to say that science and religion deal with the same things but use different concepts or different languages, that is give *alternative* descriptions. This also has the advantage of suggesting that we all start from agreement upon 'the facts'.

The ambiguity introduced by using 'x' and 'things' here instead of either 'situation' or 'feature' is perhaps misleading. It would almost certainly be MacKay's claim (at least to the extent that he accepted Alexander's distinction) that 'x' would mean 'situation' rather than 'feature'—thus maintaining the language used in the first half of the paragraph, and avoiding the slip Alexander fears into alternative descriptions. Alexander, however, appears to have neglected his own distinction—beginning this paragraph in 'situation' language, then proceeding to the ambiguity of 'x' and onward in his use of the word 'things' in a way which requires us to infer that 'feature' is intended. After all, if Alexander had remained consistent in his 'situation' language, instead of concluding 'it is tempting to say that science and religion deal with the same *things* but *use different concepts or different languages*, that is give *alternative* descriptions', he would have had to conclude 'science and

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[249] Obviously, this assumption may prove to be debatable, though we must suspend judgement just a little longer. It is worth noting at this point, however, the importance of keeping our terminology (especially 'feature' and 'situation') in very rigorous order. We will soon see the confusion that can result from failing in this endeavour.

religion deal with the same *situations* but are concerned with different *features,* that is give *consistently complementary* descriptions.'

Oddly enough, Alexander does not even seem to admit this seemingly more consistent understanding as an interesting option. Later in the paper he stumbles upon what seems to be almost exactly what MacKay would want to say here and promptly dismisses it without analysis. On p. 155 we read:

> If to say that that scientific and religious descriptions are of the same situation is to say that the first is of the physical features and the second is of the occult features, or the physical plus the occult features, of a situation physically defined, then the original difficulty appears in another place. We avoid saying that there are situations with which science cannot deal only at the expense of saying that there are *features* of certain, or all, situations with which science cannot deal. We can now correctly say that science can deal with every situation and that the two descriptions deal with the very same situation, but we have to add that they deal with different *features* of these situations and that some of these features are of a kind upon which we cannot get agreement. It is obvious that we lose more than we gain by this procedure.[250]

But *is* it 'obvious that we lose more than we gain'? We have gained much in staying consistently with the language of complementarity (as MacKay, in fact, does) rather than slipping into alternative descriptions (which seems to be Alexander's chief objection to MacKay's view). As to what there is to lose, that is not nearly as clear. Perhaps we should seek the answer to this question by comparing MacKay's view with the complement[251] proposed by Alexander.

c) Alexander's Complement to MacKay

A brief discussion of the view that Alexander proposes as a replacement for MacKay's complementarity will help us to see the source of Alexander's confusion more clearly. He says on p.160,

> . . . the shorter and less misleading and obviously correct answer is that science cannot deal with everything. If the religious description is

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[250] Italics his

[251] Convention might have had me use the word 'alternative' here, but we must be ever vigilant to preserve what Alexander calls the 'natural' use of these words. After all, if Alexander presented us with an *alternative* rather than a *complement*, we could not hope to leave behind the less desirable features of MacKay's understanding of the logical situation. If we are to resist the urge to beg the question of whether or not Alexander's version is importantly different, therefore, we must refer to Alexander's *complement* to MacKay's understanding—not his *alternative*.

> correct, it is surely by definition about what science cannot deal with, for it deals in part at least, with what is by definition non-physical while science, by definition, deals with what is physical in the wide sense of being directly or indirectly verifiable in sense experience. The two descriptions are, as MacKay seems to have seen, about things in different logical categories, there cannot be, and never could be, a conflict, and so no purpose in introducing the idea of complementarity [sic]. More than this, they could not sensibly be called 'complementary' if this is admitted since this is to admit that they are about different situations.

The source of Alexander's misunderstanding should become clear as we look closely at this paragraph. He obviously wants to say 'that science cannot deal with everything.' So far, so good. Clearly, MacKay would agree with that much—at least as long as by 'everything' he means 'feature'. But the last sentence indicates that Alexander doesn't mean 'feature' by 'everything'—he means 'situation'. Is it 'obviously correct' to say that science cannot deal with every *situation*? At the very least, it must be admitted that this is a much stronger claim; but it is also not a claim that goes without precedent. In fact, it should be recognised that what we are calling 'Alexander's complement' is not a new idea at all, however well it may be disguised in ambiguous terminology. Alexander is merely suggesting that we return to the horribly problematic system in which we look for God only in 'the gaps', defined as those mythological events (i.e. situations) about which we have absolutely no physical story to tell.

2. MacKay's Response[252]

Though there are several very important aspects of Alexander's paper that MacKay finds very troubling, he is also quick to point out that their conclusions are not nearly as far apart as Alexander seems to think. To demonstrate this similarity, MacKay begins his response by citing the following statement from Alexander's paper:

> The way out of the alleged conflict seems to be through the recognition that scientific and religious statements are in different logical categories and so could not possibly conflict.

MacKay then quotes one of his own papers, published some six years prior to Alexander's:

> Are these rival accounts or are they complementary? My own view is that both are valid. The important concepts in the two accounts

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[252] (MacKay 1957b)

> belong, I think, to two quite separate logical groups. . . (so that) to represent the two accounts as antithetical is fallacious.[253]

In his conclusion we find MacKay reiterating the fact that 'there is much in what Alexander has said with which I agree', but in the intervening pages several points of disagreement are highlighted.

The first of these disagreements concerns Alexander's analysis of MacKay's use of the concept of complementarity. Briefly acknowledging the same sort of trouble we detailed in our analysis of Alexander's paper, MacKay says 'I think the key [to Alexander's misunderstanding] lies in his notion of a "situation" as uniquely decomposable into, and defined by, a number of "features".'

Rather than detail the confusion Alexander gets himself into by the use of these terms, MacKay defends his own view by simply claiming that Alexander's criticisms do not apply.[254] Alexander's misunderstanding, argues MacKay, can be cleared up by 'a more realistic explication of the "common reference"'.[255]

The 'more realistic' explication MacKay suggests would not involve 'situations' composed of and defined by 'features', but a 'dynamic spatio-temporal distribution of *events*' of which complementary descriptions describe *aspects* 'which may find themselves mentioned in one statement, and omitted in a complementary statement, even though both statements might validly claim to comprehend the *whole* situation.'

MacKay then goes into a short discussion of when complementary descriptions are necessary. In this discussion, we are, of course, reminded of the fuller treatment he gave these matters in the papers discussed above. In his response to Alexander he says with terse precision, 'Whenever the concepts available have a logical dimensionality lower than that of the subject, complementary statements are in principle required to do it justice.' Graciously, he also provides us with an example:

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[253] (MacKay 1950c)

[254] On p. 393 we read: 'Alexander's analysis shows usefully how inconsistency could arise if different definitions of terms were given. But these definitions are not mine, and those which I use do not I think "do violence to language" in any of the respects he mentions.'

[255] Though MacKay does not mention it, Alexander himself half-way acknowledged that his view of the 'situation' was too narrow to be useful when, in his discussion of Bohr's complementarity, Alexander concluded, 'Thus, if it does not stretch language too much to call the total behaviour of β-particles "the situation", this use fits my definition of "complementary descriptions"'(Alexander's p. 158).

> The projection of a three-dimensional geometrical figure on a horizontal plane (point by point) leaves out none of the component points; yet it omits all mention of the vertical aspect which could be revealed in an (equally exhaustive) projection of the same points on a vertical plane.

In an attempt to head off many possible misuses of this concept, MacKay quickly reminds us of two further points: first, that descriptions must share a common referent to properly be classified 'complementary'; and second, that even the tightest proof of complementarity does not guarantee a description's validity.[256] He also notes that complementary statements provide mutually exclusive logical standpoints such that each description must include at least some information that cannot be directly imported into the vocabulary of its complement without contradiction. Thus, to modify an example MacKay gives elsewhere, the statements 'this envelope contains only a piece of paper with some patches of black ink on it' and 'this envelope contains the name of this year's winner' do not imply 'the name of this year's winner is a piece of paper with some patches of black ink on it'.

While Alexander's lack of rigour caused him to revert back to an undesirable substitute for MacKay's epistemology, a proper understanding of logically complementary descriptions allows us to walk the straight and narrow path between the confusion resulting from inappropriate mixing of religious and scientific statements (scientism) on the one hand and the hopeless religious scepticism of utterly transcendent mystic supernaturalism (the end result of god-of-the-gaps theology) on the other.

3. Taking Stock of the Alexander Exchange

Perhaps it would be helpful by way of summary to apply what we learned from this exchange to a specific example. We will attempt to rigorously maintain Alexander's 'feature' and 'situation' language throughout. Let us imagine that two young brothers become interested in chemistry. They acquire a small lump of sodium metal and experiment by dropping it into the toilet and closing the lid. The ensuing explosion breaks the toilet to pieces, leaving the boys asking themselves several questions concerning the situation.

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[256] Complementarity, being a purely logical concept, says nothing about the implications of other forms of evidence.

What is to be lost in this situation by saying that science can speak to some of its features while leaving other features to be described by other disciplines? After all, while science may be well equipped to answer questions like 'How many different types of chemical reaction took place?', 'What reaction most immediately led up to the explosion?' and possibly even more technological questions like 'How could we make this explosion bigger?' and 'Would the explosion have happened if we had dropped the metal into the bathtub instead?', there are other questions (e.g. 'What is Dad going to say?' and 'Was that a sin?') to which science would seem all but irrelevant.[257]

Furthermore, it would seem highly unrealistic to fear that science will continue its progress in answering more and more questions once thought to be beyond its scope to the point that there will be an ever decreasing number of these features beyond its powers to describe. While it may be the case that science is learning to describe more and more *situations* that were once sheer mystery (cf. above example), to assume that the continuing development of scientific understanding could result in the description of all possible kinds of feature would involve, among other problems, a textbook example of the naturalistic fallacy.[258] Even if the boys come to understand every stage in the chemical and structural process of the exploding toilet (a feat that would not have been possible in the not-so-distant past), they would have gained no information concerning what Alexander would call the 'psychological' or 'occult' features of the situation. As Donald Davidson has said (describing the relationship between science and psychology), 'Short of changing the subject, we cannot escape this feature of the psychological; but this feature has no counterpart in the world of physics'.[259]

B. The Bedau Exchange

The only other misunderstanding of MacKay's complementarity published by his contemporaries that we will discuss involves the association of MacKay's ideas and

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[257] To be fair to Alexander, we must note that Alexander would probably have wanted to say that the psychological, moral, and spiritual implications of this event form a different situation from the situation that the scientific statements described. The justification for calling different implications of the very same *event* 'different situations', however, is not entirely clear.

[258] making logically unjustifiable deductions from 'is' to 'ought'

[259] (Davidson 1980)

those of Nils Bohr. The careful reader will undoubtedly remember the warning concerning Bohr's theory given in the introduction to this chapter. The most serious criticism along these lines, however, involves not the simple forgetfulness of this warning, but the fortified denial that such a warning is valid.

Perhaps the most important such denial was published by Zygon in 1974 as part of a symposium on the proposed complementarity of science and religion.[260] The published version of this symposium consists of only two papers: The first by Hugo A. Bedau[261] and the second by Donald M. MacKay.[262]

1. Bedau's Objection

In his paper, 'Complementarity and the Relation Between Science and Religion', Bedau attempts to explain what he thinks a complementary relationship between science and theology would look like. Bedau starts this article by admitting that Bohr intended his theory to have implications for a wide range of academic disciplines, including the relationship between science and theology. He goes on to claim, however, that Baillie, Coulson, Alexander, and MacKay, all of whom had written fairly extensively on the complementarity of science and religion, were somewhat less than clear on the issue.[263] As we shall see, the essence of Bedau's criticism of MacKay's work is his assertion that MacKay is being less than judicious in his use of the word 'complementarity'.

The part of his paper that most interests us here is his assertion that in order to say that science and theology are complementary, we *must* be saying that they bear a

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[260] The conference at which early versions of the papers in this symposium were presented, "Science and religion: The complementarity hypothesis," Birmingham, England, 1969, was organised by J. Hick, who was originally to have published the proceedings.

[261] (Bedau 1974)

[262] (MacKay 1974c)

[263] Though this is not the place for a discussion of Baillie's work (Bedau refers to (Baillie 1953)) the other works Bedau refers us to here relate much more closely to our present topic. While we have already discussed Alexander's work on this issue at some length, it should be noted that Coulson's work was also criticised by Alexander in the article we discussed. Coulson, also a physicist and an outspoken Christian, was MacKay's colleague at the University of London in the 1950's. While Coulson (twelve years MacKay's senior) did rely fairly heavily on complementarity thinking in all three of his best known attempts to explain the relationship between science and theology (Coulson 1960; Coulson 1953; Coulson 1955), it does not appear that Coulson developed the idea as extensively as MacKay did. It should also be noted that all three of these lectures were presented and published by Coulson before MacKay left London.

very similar relationship to the relationship Bohr described. He begins this portion of his argument with the assertion, clearly to be taken in the strongest possible sense, that 'Bohr introduced the concept of complementarity as a new theoretical principle . . . during the 1920's'.[264] He then explains that while the concept of complementarity in the meta-analysis of science and theology is not inextricably tied to Bohr's theory for its *truth* (i.e. the truth or falsity of the meta-analytical concept does not depend on whether Bohr's theory stands or falls in physics), it *is* inextricably tied to Bohr's theory for its *meaning* (i.e. unless we mean something closely analogous to what Bohr meant, our use of the word is *meaningless*). He supports this claim with the following argument:

> After all, by what other route are we to make sense of any claim that two things, *x* and *y*, are 'complementary'? Is the would-be complementarist to be allowed to mean by complementarity whatever he pleases? Obviously not, since the term is not his neologism . . . What is left, then, but a tacit reliance upon the concept of complementarity (with its aura of prestigious origin) as employed by Bohr, minus whatever is peculiar to its application in quantum mechanics? But if tacit reliance, why not explicit?[265]

Bedau's most direct attack on MacKay can be found in his footnote to the argument just quoted. In this rather lengthy footnote, Bedau directly attacks MacKay's assertion (made in several places) that *logical* complementarity and *physical* complementarity are importantly different concepts. Bedau summarises MacKay's argument as follows:

> (i) complementarity is a "logical" relation,
>
> (ii) it antedates Bohr's adoption of the term,
>
> (iii) its logic deviates from that to be found in Bohr's use, and therefore
>
> (iv) we need not trouble ourselves overmuch with whether we can make sense of claiming that religion and science are complementary in a fashion analogous to that in which Bohr says that quantum mechanical phenomena are complementary.[266]

Bedau then attacks the second premise. He grants that the word 'complement' in its various forms did 'antedate Bohr's adoption of the term', but is also quick to point

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[264] Ibid., p.206

[265] Ibid. p. 207

[266] Quoted from Bedau's footnote 15.

out that all of these pre-Bohr uses adhered to fairly consistent norms. As this family of terms was used in logic, Bedau reminds us, 'any term T is the complement of any other term, T' if and only if the conjunction of T and T' exhausts the universe of discourse.' In geometry, he says 'any angles, α, β, γ, . . . are complementary if and only if their sum is 90°', and in chromatics 'any colour, C, is complementary to another colour, C', if and only if they are 180° apart on a colour wheel, i.e. yield a neutral when combined.' Clearly, Bedau's argument continues, even if Bohr did deviate from the pre-Bohr uses of this family of words, Bohr's use is more consistent with its earlier usage than what MacKay has in mind because while MacKay allows an indefinite number of complementary descriptions to apply to a single event, Bohr maintains the historically 'dyadic relation' of two and only two complementary descriptions for any given event. Though he merely states this point without further comment in this symposium, he explains this distinction between Bohr and MacKay in a little more detail in an earlier paper, written with Paul Oppenheim.[267] We find this slight clarification in Oppenheim and Bedau's 41st footnote, which reads as follows:

> Unlike most writers on complementarity, Reichenbach (p. 159) and MacKay ([Reply to Alexander] p. 390) expressly permit 'complementarity' to designate a polyadic relation. We ignore this alternative, since the Uncertainty Principle involves only pairs of parameters and since Bohr regards this Principle as the basis of complementarity in Quantum Mechanics.

Undoubtedly it is with these considerations in mind that Bedau pursues this line of argument in his symposium paper.[268] Bedau sums up his brief analysis of the pre-Bohr uses of the terminology in question concluding as follows:

> I suspect MacKay's notion of complementarity is intended to be faithful neither to Bohr's concept of complementarity nor the pre-Bohr concept . . ., but is intended to be an entirely new concept with a new 'logic' all its own.

Bedau's argument takes an unexpected twist, however, when he goes on to point out the fact that MacKay (and all the other participants in the dialogue) do not use the related terminology 'as though it were an entirely new concept having only

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[267] (Bedau and Oppenheim 1961)

[268] Bedau does not seem to recognise the fact that, unlike Bohr, MacKay does *not* rely on the Heisenberg uncertainty principle as a basis for his doctrine, and therefore is not limited (as Bohr may have been) to dyadic relationships.

(misleading) orthographic affinities to "complementarity" as found in Bohr or to "complementary" as found in classical logic, geometry, and chromatics.' The point of this last statement may not be entirely felt before we see the conclusion Bedau draws from it. In summing up his 'refutation' of MacKays argument, he offers us the following analysis:

> Whether, therefore, (i) is true it is difficult to say; in any case, the truth of (ii) does not tend to establish anything interestingly relevant because (iii) is false; and the argument to establish (iv) is thus for several reasons unsound.

It would seem, then, that Bedau genuinely believes that unless MacKay means by 'complementarity' 'an entirely new concept having only (misleading) orthographic affinities to' its prior uses, its logic does not deviate 'from that to be found in Bohr's use'. While MacKay's sympathisers may hope for some middle ground between these two rather extreme alternatives [!], we must remember that this entire argument against MacKay has taken place in footnotes, so it may not have been expressed as carefully as it would have been had it been part of Bedau's main text. Besides, even if the conclusion of Bedau's argument is a little wide of the mark, there is still one quite strong (if less overt) objection to be dealt with. Bedau has noted his suspicion that MacKay does not intend to use his terminology faithfully, and this in itself is a quite serious charge. It should be noted, however, that this charge did not play as large a role in the footnote that was apparently designed to deal precisely with MacKay's work as it did in the main body text to which that footnote was attached (cf. quotation above). This indicates two things: 1) Bedau may not have fully appreciated MacKay's meaning, and 2) this charge, which we have understood to be the most serious, is no mere side thought of Bedau's, but a carefully contemplated objection. It is appropriate, therefore, that in MacKay's response he spends more time soothing these considered yet implicit worries than Bedau's less coherent explicit ones.

One final thing that should be noted concerning Bedau's objection is that he does offer us some hope. While we have seen that the most serious worry that his paper highlights is that if we do not consciously stick closely to Bohr's theory we run the danger of inconsistency, Bedau observes later in his paper that 'it may be possible nevertheless to recast the claim of the complementarist so as to avoid emphasis on any strict analogy with complementarity in quantum mechanics'. From what we have seen in the first part of this chapter, it would seem that the road Bedau is here

suggesting may indeed be profitable—though when he completes his 'recasting', he may be surprised to find himself in the happy company of MacKay's supporters.

2. MacKay's Response

Rather than respond to Bedau's objection with a detailed analysis (such as we have just worked through), MacKay responds in a more general fashion. Trusting the intelligence of his readers, MacKay takes advantage of the opportunity to offer what he calls an 'overlengthy review of the subject' with the hope that it 'may help restore objectivity to the discussion of its intrinsic merits.'[269] As this response also represents MacKay's fullest treatment of the subject, its importance would be difficult to overstate. On the other hand, most of the ideas he presents here have already been discussed elsewhere, so we will focus mainly on his comments that have the most direct relevance to Bedau's objection.

MacKay opens his paper with the following comments, obviously chosen to give the reader a sense of the purpose behind MacKay's contention that science and theology are complementary:

> Theology, at least in its Christian theistic form, is all-embracing. Our world is declared to be God's world—the whole of it. All our knowledge—physical, biological, historical, philosophical—is knowledge of God's creation. If this is not an empty claim, then the theologian is bound to seek relations between the statements made in different academic disciplines and those he makes in specifically theological terms.

He then proceeds directly to the worry that seems to motivate both Alexander and Bedau in their somewhat less than rigorous arguments: he concedes, 'a blanket use of the term is logically empty unless we can say what it would mean for two statements not to be complementary.'[270],[271] He is also very quick to warn us, however, that a

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[269](MacKay 1974c), p.242

[270] Ibid. p. 225

[271] We should not take this 'concession' to be the *result* of the criticisms we have been discussing, however. Indeed, this seems to have been a major concern of his right from the beginning. Perhaps his most eloquent warning against misuse can be found in a paper he had published in 1953. There he says:

> Whenever a new concept swims into philosophical ken there is a danger that it will be overworked by the Athenians on the one hand and abused by the Laodiceans on the other. Complementarity is no universal panacea, and it is a relationship that can be predicated of two descriptions only with careful safeguards against admitting nonsense. Indeed the difficult task is not to establish the possibility that two statements are logically

strict reliance on Bohr's theories would be mistaken. In a footnote to these comments, he refers us back to a paper he wrote for an earlier symposium on complementarity,[272] in which he rigorously delimited the conditions under which a set of descriptions can rightly be described as logically complementary. These conditions (very slightly modified in accordance with MacKay's editorial comments in the 1974 footnote) should soothe Bedau's most serious worries and provide us with a clear statement of what it is that we have been arguing for throughout this first chapter. They are as follows:

1. They have a common reference[273]
2. Each can in principle be exhaustive[274]
3. They make different assertions because,
4. The logical preconditions and/or use (i.e. context) of concepts or relationships in each are mutually exclusive, so that significant aspects referred to in one are necessarily omitted from the other.[275]

As we have seen from our analysis, Alexander's confusion came about through a misinterpretation of 1 that made him want to deny 2. Bedau, in addition to referring to Alexander's argument favourably in several places,[276] calls the legitimacy of 3 and 4 into question. Hopefully our analysis of their criticisms will help us avoid falling prey to those misunderstandings in the future, because, as we have alluded to earlier and will see in much more detail as our analysis progresses, MacKay's doctrine of

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> complementary, but to find a rigorous way of detecting when they are not . . . A good deal of consecrated hard work is needed on the part of Christians to develop a more coherent and more biblical picture of the relationship between the two . . . But if once we recognise that at least most theological categories are not 'in the same plane' (in the same logical subspace) as most scientific categories, there is no longer any theological merit in hunting for gaps in the scientific pattern. Gaps there are in plenty, But it would seem to be the Christian's duty to allow—indeed to help—these gaps to fill or widen as they will, in humble and cheerful obedience to the truth as God reveals it through our scientific discipline, believing that to have theological stakes in scientific answers to scientific questions is to err in company with those unbelievers who do the like. ((MacKay 1953a)

[272] (MacKay 1958a)

[273] As we have seen, the 'reference' that complementary descriptions must have in common should be an *event* as opposed to an *object* or mere *feature* of an event.

[274] It should also be clear from our previous discussion that 'exhaustive' as used here means that there do not have to be any unexplainable 'gaps' in the causal chain inferred by the description—and further, that this special use of 'exhaustive' does not imply 'exclusive'.

[275] See footnote 1 of (MacKay 1974c)

[276] Including one reference (in his 15th footnote) to 'Alexander's unpublished essay' which was presented at the same conference at which Bedau's objection and MacKay's response were originally presented.

complementary descriptions is the basis for the entire project of Comprehensive Realism. To misunderstand the way logical complementarity works would necessarily result in a misunderstanding of the Comprehensive Realist approach to the mind/body problem, freedom, and our Christian hope.

Chapter 4: Comprehensive Realism and the Mind/Body Problem

From the biographical details we discussed in chapter 2, we saw that Donald MacKay began and ended his career as a theoretical physicist, though his interests also broadened throughout his life, extending his expertise in philosophical and theological directions as he expanded his research on communication from a neurological point of view. It was not until fairly late in his career, however, that he addressed the metaphysical issues at the root of mind/body problem. The most likely reason for his not coming to this question sooner is that he saw himself more as a scientist than a philosopher. Donald MacKay was not a man who had much time for idle speculation. As we shall see, even when, in the last decade of his life, he came to address metaphysical issues most directly, he did so as an empirical scientist addressing philosophical issues rather than as an armchair theologian with an interest in science.[277]

MacKay's late entry into the metaphysical discussion was no coincidence, however. Because he was unwaveringly committed to the Christian doctrine that all truth is God's truth and will not end in contradiction, MacKay was infected by a sort of epistemic optimism that made him suspect the value in pitched ideological battles.

The debate between dualistic interactionism and monistic materialism with regard to the mind/body problem is just the sort of pitched ideological battle that MacKay was always keen to avoid. Its historic difficulty and relevance to his research, however, made it one that he could not easily evade. As we will see in our discussion of this aspect of MacKay's thought more clearly than in any other stage of our discussion of his work, MacKay seemed to believe that if we could just get a clear grasp of the relevant data, all our most difficult ideological differences would disappear.

In our last chapter, we suggested that an accurate understanding of MacKay's doctrine of complementary descriptions made the mind/body problem an essentially *grammatical* problem, rather than a metaphysical one. In this chapter, we will attempt to work out in greater detail the kinds of things this understanding of the mind/body problem led MacKay to say. In the first section we will attempt to spell

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[277] The author of this thesis, on the other hand, like so many thinkers in this field, is more of the armchair sort.

out in more detail the grammar that MacKay had in mind, and in the second we will investigate how the metaphysical work involved in his development of a science of the mind progressed under this grammatical model of the problem.

I. Clarifying the Grammar of Anthropology

We will begin our discussion of MacKay's grammar by seeking an answer to the fundamental question, 'How do we know when a mental description applies?'. Once we have pursued that question as far as we can, we will turn to a few practical 'do's and don'ts' of mental descriptions as we seek further to clear away the obtuse metaphysical constructs which have crowded the ideological landscape of mental philosophy for so long.

A. How do we know when a mental description applies?

Because MacKay came to neuroscience through his interest as a theoretical physicist in the limits of digital and analogue computing devices, his first struggle with the grammar of mental language came in the form of questions as to when mental language should be applied to computers. Though the controversy that fuelled this project has died down considerably in recent years, MacKay's work, unlike the vast majority of work in this field, is highly valuable even beyond the pseudo-intellectual sensationalism that characterised the initial flourish of the A. I. debate. In fact, the clarity and academic discipline of his work in this area, so uncharacteristic of most thinkers interested in this problem, may bear a large portion of the responsibility for the diminished interest this debate has seen in recent years—for his essential thesis is that the A. I. debate is fuelled by the same lack of evidence which is at the heart of disagreements over the mind/body problem. Like the mind/body problem, MacKay believed that the A. I. question was a question for grammarians, not metaphysicians.

In his 1962 paper 'The Use of Behavioural Language to Refer to Mechanical Processes'[278] we find the clearest development of MacKay's grammar of mental language. In this paper we find a grammatical table (Figure 1) which represents the major divisions between the natural types of language that can be applied to people and mindlike artefacts.

MacKay uses this table to argue that the A. I. debate was ill-founded. He says:

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[278] (MacKay 1962d)

> The problem I want to discuss is represented by the question marks in the corresponding column on the right-hand side. It is often expressed by asking 'Can a machine think?'; and fierce debates have raged between those designers of automata who regard this as an empirical question answerable by experiment in the affirmative, and those philosophers who share the same presupposition but regard the evidence to date as inadequate . . . But such attempts to save 'the argument from impotence'[279] seem also to be needless; for if our 'semantic chart' is correct, the short answer to a claim on empirical grounds that 'machines can think' or that 'minds are machines' is not 'you are empirically justified (or unjustified)' but 'you are talking nonsense'. For in the human case, it is not *brains* that are said to think, feel, hope, fear, but *people.* To say that a mass of nerve-cells 'thinks' or 'fears' would not be an empirical assertion but a misuse of language; and just the same is true for a mass of wires and valves.[280]

Figure 1

Natural		Artificial	
Personal Aspect	Mechanical Aspect	Mechanical Aspect	Personal Aspect
Person (Joe)	Growth	Construction	
	Brain-and-Body	Automation	?
	('Mass of cells and things')	('Mass of wires and valves')	?
	Carrying signals	Carrying signals	
	Forming an information-system	Forming an information-system	
	Organising observable	Organising observable	
	behaviour indicative of	behaviour indicative of	
Thinks, feels,	thinking, feeling,	thinking, feeling,	?
Hopes, fears . . .	hoping, fearing . . .	hoping, fearing . . .	

[279] MacKay argues in the following papers that what he calls 'the argument from impotence' will never succeed, because any specification of behaviour which cannot be reproduced in a machine doubles as design specifications for a machine that does: (MacKay 1951d; MacKay 1952a; MacKay 1956b)

[280] (MacKay 1962d) p. 91

This is where MacKay's paper gets really interesting. He acknowledges that a wise computer engineer may take his point in stride, returning with the more meaningful question of whether or not a machine could be constructed which demands description in mental language. This leads MacKay directly into a rather lengthy discussion of the question we set out in this section to answer—namely 'How are we to know when a mental description applies?'.

MacKay's reasoning is lengthy and technical, but for our purposes, his conclusions can be supported sufficiently by a fairly simple illustration. The illustration we will develop will be similar to one that he suggests (but does not develop) about halfway through his argument; but before we introduce the illustration it may be helpful to examine the conclusions we will seek to draw from it. MacKay argues that there are two basic requirements that must be met before mental language can be appropriately used:

> First, and obviously, (a) the physical 'bodily situation' must admit of and support in practice an underspecified state-description showing appropriate behavioural features: the 'observable indications' of thinking, feeling, hoping, fearing, etc. But the second, and no less important, requirement is (b) that we, the arbiters, must be rationally able and willing to adopt the appropriate standpoint of interactive relationship, from which the situation acquires some of our own necessary unspecifiableness-to-ourselves. This I think is the technical correlate of the much-discussed distinction between the 'I-Thou' relationship and that of 'I-Object'. In the latter, no comparable barrier of principle prevents full specification of the object-situation by the observer, even where the object is a normally functioning human body.[281]

MacKay argues that we cannot *rationally* apply mental descriptions to anything unless these two conditions are met. But since we are more concerned at this point to discover the less rigorous conditions under which mental descriptions can be *meaningfully* applied, it may be helpful, for the sake of argument, to broaden our discussion to include looser uses of mental language. This will allow us to clarify and support MacKay's conclusion, making illustrative use of the relationship between a golfer (we will call her 'Fiona') and her favourite driver (which she affectionately calls 'Buster').

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[281] (MacKay 1962d) p. 96

Now, the fact that we have already mentioned Fiona's name for her club suggests the point of the illustration. Fiona refers to her club in personal language. The question we will most profitably ask of this situation is this: 'To what extent is it meaningful for her to apply this sort of language?'. To draw this illustration more to the point, let us say that Fiona builds into the personality she attributes to Buster certain mental descriptions. 'Buster is fairly grouchy when I wake him up for the first tee', she might say, 'but on a good sunny day he is usually feeling a lot better by the third hole. He never likes doglegs, though, and is petrified of water.'

Of course, any reader with positivistic tendencies may object at this point that Fiona's speech is merely an example of the common literary devise known as 'personification', and that if we are to learn anything from it, it must be translated into more meaningful language. But the question we are dealing with here is not 'Is mental language *preferable*?'. After all, all but the most die-hard positivist would agree that that question would have to be answered differently depending on the speaker's purpose. The question we set out to answer, on the other hand, is 'Is mental language *meaningful*?'. The fact that our hypothetical positivist has suggested that we *translate* this language can be read as an affirmative answer to this later question.

We also know, however, that unless Fiona has some strange sort of psychological disorder, the maintenance of Buster's 'personality' requires an act of imagination on her part.[282] And so the interesting question becomes, 'What, exactly, is it that Fiona must imagine concerning her golf club for the mental description in question to be meaningful?'

Must she imagine that there is a human brain, complete with the requisite pineal gland, somewhere inside her club? Perhaps she can get by with a little less than that, but if so, what *must* she imagine? Must she imagine that her club has some mysterious ability to break the laws of physical causal closure, reacting to forces from some non-physical world of the mind? Substance dualists would probably want to assert something along the lines of this second proposal, but MacKay suggests that

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[282] Just in case one is tempted to say that the meaningfulness of Fiona's mental descriptions of Buster requires some act of imagination on the part of the interpreter of her comments as well, we should, perhaps, point out why this is not the case. The interpreter does not need to participate in the required activity of imagination because to interpret Fiona's comments one need only recognise the fact that *Fiona* is doing a bit of imagining—and so it is on Fiona's activity that our interest must focus.

Fiona can get by with even less than that. As the conclusion we quoted above suggests, MacKay argues that all Fiona needs to imagine is a) that her club displays human-like behaviour that can be the subject of an underspecified description, and b) that it is capable of participating with Fiona in the right kind of interactive relationship.

Her mental descriptions themselves indicate that Fiona has, in fact attributed human-like behaviour to Buster. That much seems pretty straightforward. But what are we to make of the requirement that Buster's behaviour be the subject of an underspecified description? 'Underspecified' may be a strange word to find tossed in the midst of the above, otherwise intuitive, necessary conditions for the application of mental language. Perhaps it could use a little explaining.

The concept of underspecification, as MacKay explains,[283] is an essential feature of mental descriptions, because underspecification is necessary for even the most basic forms of agency. A completely specified situation, as thinkers like Laplace are notorious for having taken to logical extremes, leaves no 'options' available—and if there is one thing that an agent indisputably needs it is more than one option.

In explaining[284] this point, MacKay refers to a simple light switch. If we are to say that it is possible for the switch to be either on or off at any given time (i.e. there are two viable options for the switch at time T), then the situation picked out in naming the switch to be considered at any given time must be underspecified. That is just to say that if we have all the relevant details concerning the switch for the time leading up to time T, (here we are talking about details like when it was last switched on and when it was last switched off) then at time T it cannot be said that there two viable options for the switch. Unless the laws of physical causal closure (as summarised, for example, in the laws of thermodynamics) are violated,[285] this general rule holds

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[283] (MacKay 1962d) pp.92-95

[284] (MacKay 1962d) p.93

[285] We mentioned earlier that the substance dualist may actually want a violation to this principle to be implied by a valid mental description, but we must also remember that we set out to give a less ambitious set of requirements. In bringing up this principle of physical causal closure again, we are simply pointing out the fact that the underspecification of mental descriptions should be considered one of the costs of preserving this principle in cases where mental descriptions apply.

true for all objects—though more complex objects (obviously) require more complex 'relevant details' to collapse the range of options available.[286]

So with regard to Fiona and Buster, the underspecificity requirement simply means that Fiona's description of Buster's human-like behaviour (his fear of water holes, for example) cannot involve so many details that there are no options available to Buster to which his fear could be relevant. More specifically, we can say that if Fiona's description of any given event involving Buster's action is so detailed that none of the most basic, physical, causal forces are summarised by some 'higher level' description, any agent aspect of the description is rendered meaningless. After all, unless we wanted to appeal to systematic physical causal gaps, there would be no causal role available for the agent to play.

This is not to say that in order for a mental description to apply, the more explicit details cannot be *available* as part of a *different* description.[287] To deny the possibility of such a detailed alternative would simply be to miss the lesson of logical complementarity and confuse exhaustiveness with exclusiveness.[288] But, because applying a mental description (by definition) is to treat the thing described as an *agent*, and one of the things all agents must do is *decide* between *options*, we must insist that no *mental* description go down to a level of specificity that would limit the number of options available to one.[289]

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[286] This point should hold even in the much-disputed cases involving the Heisenberg uncertain events of quantum physics. In these instances the point is not particularly helpful, however, since Heisenberg's principle states that in these situations it is physically impossible to achieve the level of specificity required to limit the options available indefinitely (i.e. some degree of structural underspecificity will plague any attempt to determine the outcome of a quantum event in advance).

[287] As we will discuss in our next chapter, MacKay actually has an argument to the effect that there can be no prediction of future behaviour based on an agent's physical description (even an infinitely detailed description in a universe in which physical determinism reigns absolutely) that the agent would be right to believe and wrong to disbelieve (He calls this his argument for 'logical relativity'). Though this argument for logical relativity is part of MacKay's original argument in the paper we are now discussing ((MacKay 1962d)), his conclusions hold even without it, so we will delay our discussion of logical relativity for the time being.

[288] We must keep in mind that it is not the situation-described-in-as-much-detail-as-possible that we are concerned with here. Because we are interested in the *grammatical* properties of mental *descriptions* rather than the *metaphysics* of *mind* (which we will discuss in our next section), we must always remember that our concern is only with the situation-as-described, which will necessarily differ with the level of specificity provided.

[289] As we will see later (Section II C of this chapter), MacKay had a good deal to say about the aptitude of mental descriptions in relation to the level of descriptive specificity.

So we see that for Fiona's mental description of her driver to be meaningful, Buster must (at least by Fiona's estimation—which may, of course be supplemented by some level of imagination) exhibit human-like behaviour that can be the subject of an underspecified description. The kinds of human-like behaviour she recognises in her club we find already implied by the specific mental descriptions suggested (i.e. grumpiness, dislike, and fear), and the fact that she is dealing only in underspecified descriptions of Buster's behaviour can be fairly taken for granted.

Though we have not developed the idea, we have also mentioned MacKay's requirement b): that Fiona is 'able and willing to adopt the appropriate standpoint of interactive relationship'. We will now attempt to provide a little more detail on this second requirement. In particular, we will investigate what reason we would expect anyone entering into such a relationship to have for doing so.

Unfortunately for the sake of our illustration there are not a whole lot of very interesting things to say with regard to Fiona's motives. It seems that Fiona may have an indefinite number of reasons for attributing personality to her golf club—all involving some degree of playfulness. But if we were to reinstate a stricter rationality requirement this issue may become a bit more interesting. What reason might we give, for example, for our rational reluctance to apply mental descriptions to some objects even as we recognise the rational bankruptcy of solipsism?

MacKay says that the decision regarding when it is rationally justifiable to enter into the relationship required for a meaningful mental description requires a certain 'curious logic—a blend of deduction and commitment'.[290] He elaborates on the nature of this curious logic as he continues to discuss the question of whether or not it would be rational to apply mental descriptions to artefacts. Explaining the difficult process of dissuading anyone that may be sceptical along these lines he says:

> If what I have been arguing is correct, then there is *no* kind of evidence that could logically convince us at this point; for it is not on *evidence* that our missing conviction depends. What we are suffering from is not a failure of evidence, but a failure of nerve.[291]

Some may object that MacKay hasn't really explained a whole lot here. But in some ways, this is precisely his point. After all, what would we expect a 'more complete'

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[290] (MacKay 1962d) p. 100

[291] (MacKay 1962d) p. 101

answer to look like? Have we become so scientistic that only a reductive argument will satisfy us? At this point, we may be wise to leave this as a rhetorical question.

B. Some important grammatical do's and don'ts

Now that we have discussed the question of minimal requirements for the meaningful application of mental descriptions, all that remains for us to discuss with regard to MacKay's grammar of mental descriptions is a few assorted do's and don'ts. In this regard we shall call attention to three specific bits of advice that MacKay gave in a rather wide assortment of publications. These three bits of advice are: 1) Always practice semantic hygiene; 2) Remember that the language of causation has no place in the description of relationships between linguistic levels; and 3) Remember that there is a difference between a mystery and a counterexample.

1. Semantic Hygiene

In light of our discussion in chapter 3, the first bit of advice can be dealt with rather simply. The one issue that MacKay stressed more than any other when it comes to grammatical do's and don'ts is the issue he called 'semantic hygiene'.[292] This is the point we referred to in chapter 3 when we said that we must be careful not to confuse our categories. Perhaps MacKay's clearest warning along these lines can be found in the conclusion to the first chapter of his Gifford Lectures, where he says:

> What I am pleading for from the outset is that we make a point of observing what you might call semantic hygiene—a determined effort to keep our terms brushed clean of infection by careless confusion of categories. In particular, words like think, believe, hear are words that in their philosophical categories belong expressly to the I-story. It is *people* who think, believe, hear things, like things, see things. Thinking is something that people do. The brain-story, we doubt not, has something to be said about it in relation to thinking, such that for any change in what a man thinks, a change must take place in the brain's activity. But to talk about 'brains thinking', I suggest, however common it may be, is philosophically a blunder—a solecism.

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[292] Though he mentions this bit of advice in many more places, the following statement (in addition to the ones quoted below) is one of his most explicit:

'True, no "box of wires and valves" could ever validly be said to understand anything; but then, no "mass of brain cells" does so either. If we carefully compare like with like, it is hard to see why the semantic capacities of human brains should not be adequately paralleled in those of human artefacts, even in their present state of development.' (MacKay 1965f) p. 254

> It is not brains but people who think. It is not so much false as nonsense to say 'my brain thinks'.[293]

The mistake that MacKay is urging us to avoid in practising this semantic hygiene is akin to the long acknowledged logical mistake known as 'the use/mention fallacy' (i.e. the fallacy of assuming that some feature of a referent must be shared by its symbolic representation and visa versa). These two mistakes are similar in that in both instances some property of an idea is attributed to the kind of concrete particular we have learned to associate with that idea. The way this works in the case of bad semantic hygiene comes out a little more clearly, perhaps, in one of his more concise statements of this warning. As part of an extended analogy between our mind/brain relationship and a working electronic calculator's electronics/equation relationship, he says:

> The fact that a quadratic equation with two roots is embodied in a piece of electronic hardware in no way implies that the hardware at any level of description as hardware 'has two roots'. The notion makes no sense, even though the existence of two roots has well-defined hardware implications.[294]

This statement seems very similar to the way in which we would expect MacKay to have answered U. T. Place's famous question, 'Is Consciousness a Brain Process?'.[295] Since 'consciousness' refers to mental activity and brain processes are essentially physical, to answer Place's question in the affirmative would simply be to confuse an essentially abstract activity with the more tangible activity we have learned (through medical science) to correlate it with. As MacKay wrote elsewhere,

> This would be simply to muddle up the two languages—rather like asserting, or denying, that when a man feels in love, his brain-cells feel in love. Such a statement is neither true nor false, but meaningless, because feeling in love is an activity of subjects, not of objects; and when a man is feeling in love, his brain cells are presumably fully occupied doing something physically describable in 'object-language' as the correlate of his mental condition.[296]

2. No Inter-Level Causation

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[293](MacKay 1991b) p. 9

[294] p. 34 of the following posthumous publication: (MacKay 1989)

[295] (Place 1956)

[296](MacKay 1957a) p. 401

The second bit of advice central to MacKay's grammar is that we should avoid the temptation to assume causation. While MacKay's arguments along these lines may not be as controversial as those of some other Scottish philosophers (esp. David Hume), this bit of grammar, if valid, would take all the pressure out of philosophical debates over downward causation, epiphenomenalism and systematic overdetermination. Though this point would, no doubt, repay development by those with interests in the 'non-reductive physicalism' school of mental philosophy, for now we will narrow our discussion to what MacKay actually said, postponing our discussion of the broader implications for another venue.

Though there are several other works[297] in which MacKay spends considerable time on this issue, nowhere is he more concise than in his response to Benjamin Libet's report on the findings of his now famous experiments.[298] Though his response is dealing with control, which is a specific type of causation, the force of his argument admits simple generalisation. Considering the claim that we control our brains, MacKay says:

> To see the logical non sequitur here, consider first an inanimate example. The autopilot in an aircraft in a clear sense evaluates and controls the plane's altitude, speed, and the like. It does so in and through an internal computational network of physical processes, which are ultimately linked to receptors and effectors in the aircraft. But does it in the same sense 'control' these internal processes? Surely not; these are processes that it has no means of evaluating, *for it is in them that it has its own being as an evaluative controller.*[299]

As MacKay here makes clear, in all our attempts to trace lines of causation from 'our bodies' back to 'our minds' we are likely to be disappointed. After all, as we have learned from countless carefully documented medical case studies, it is only in our properly functioning bodies (particularly our brains) that our minds (or even our *selves*, for that matter) have their being. To even think about what it would look like for a mind to cause a brain is simply to miss the point. The following hypothetical dialogue should help illustrate this point:

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[297] Most notably (MacKay 1965b) especially section 9.3 (pp. 187-8); (MacKay 1966b) especially (pp. 438-9); and (MacKay 1980f) section 2 (p.1389)

[298] In these experiments, Libet was able to record electrophysiological 'readiness potentials' in the brain, measured through the scalp, immediately preceding voluntary muscle movement. See his paper: (Libet 1985)

[299] (MacKay 1985b) italics added.

"What colour is this cup?"

"Red."

"How do you know that it is red?"

"Because I know the English language."

"But how do you know that this cup is an instance of what you have been taught to call 'red"

"Because I see it."

"And how do you know you can trust what your eyes tell you?"

"I don't. My eyes don't tell me anything."

"Are you saying that you are blind?"

"No, I am saying that my eyes don't talk—they see."

"Don't be ridiculous. I *know* they don't *talk*, but if you can see, then your eyes are communicating information to you through your optic nerve."

"So then, where do you say that I am?"[300]

3. Not All Mysteries Are Counter-Examples

The third and final bit of grammatical advice MacKay repeated throughout his academic career was that, especially with regard to questions concerning the relationship between mental and physical descriptions, we should beware not to confuse 'I don't know' with 'I must be mistaken'. In particular, our failure to provide an explanation for a given event does not imply that we have *misunderstood* that event. After all, our understanding does not have to be complete to be correct. While this may be a simple and very intuitive point, it is also one that is prone to be forgotten. The temptation is to assume that since the system in question is able to explain nicely the very concepts which plague other systems as the toughest of antinomies, that system will continue to explain away every element of mystery. Once one has fallen to this temptation, any remaining mystery comes to be treated as a counter-example. MacKay's attempts to keep his readers from falling into this

[300] Though no specific citation is available, hypothetical conversations similar to this one will most likely be familiar to students of linguistic philosophy. While this particular arrangement of these comments is not a direct quotation, no claim to originality can be made to the ideas behind them.

temptation come most often in the form of explicit reminders not to take his view as one intended to expel all mystery. The most explicit of these reminders was printed in 1965.[301] Here MacKay says,

> This is the topic of the present paper. If it has a thesis, it is that although there is scope and need for semantic discipline to clarify our thinking, there remains in this area a real issue—a genuine mystery, if you like—and not only a pseudo-problem to be covered over by what amounts to a linguistic bluff.[302]

We have claimed repeatedly that if we see the mind/body problem as MacKay saw it, the problem is not metaphysical, but grammatical. Could this claim itself not be read as the kind of 'linguistic bluff' that he here warns us about? If we left our interpretation of MacKay's understanding of the mind/body relationship here, our interpretation would certainly be open to this charge. As it is, however, our grammatical discussion has merely set the stage for the ensuing metaphysical discussion. If we had not treated the grammatical issues involved here, we would be very likely to be stuck in the miry pit known in Anglo/American philosophy as the 'mind/body *problem*'. Now that these issues have been addressed, however, it is to be hoped that we can move beyond this problem, taking steps to better understand that indisputable mystery which is the human mind.

II. The Metaphysics Behind the Grammar

Though we should now have a general idea of how MacKay advised us to use mental language, we have thus far learned very little about what it is exactly that MacKay believed a mind is. If MacKay's grammatical solution to the mind/body problem is to be taken as any more than a linguistic bluff, however, we should expect a more detailed explanation than we have brought into our discussion thus far. A brief scan of MacKay's list of publications should reveal that he had plenty to say on this issue. Most of his work along these lines was of a strict empirical nature, however, so our task will be to analyse his considerably less verbose comments on the metaphysical implications of his empirical findings. We will begin our analysis with a brief discussion of what he took to be the proper epistemological starting point, and then seek his answer to the following three questions: 1) What is a mind? 2) What do

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[301] This warning is developed more fully in several places, most notably in his Gifford Lectures: (MacKay 1991b) especially pp. 5, 9-10,

[302] (MacKay 1965d) p. 321

minds do? and 3) How are we to bring the tools of empirical science to bear on our study of the mind?

A. The Proper Epistemological Starting Point

Though he had already published quite a lot of work that was very closely *related* to the mind/body problem in metaphysics,[303] MacKay first addressed the problem directly in 1978.[304] It is to this 1978 paper that we will now turn in our effort to understand what MacKay saw as the proper epistemological starting point to a proper metaphysical investigation of the concept of mind.

The first thing MacKay attempts as he approaches the metaphysical aspect of the mind/body problem is to clear the ideological landscape of unnecessary defensive structures. He does this by means of the relentless optimism which, as we discussed in the first section of this chapter, characterised his entire career. He says that:

> . . . on both sides of this debate I believe errors arise not so much in what each affirms, but in what they think they must deny in order to affirm it. If I am right, the relationship between mechanistic brain science and the personal, moral and religious dimensions of human nature is much more harmonious and constructive than would appear from current polemics.[305]

We see this optimism again as he introduces his own position. He says:

> What is the working neuroscientist to make of all this? Do we have to choose between a speculative interactionism that sets limits in principle to scientific explanation of human behaviour, and a stridently dogmatic and unsubstantiated materialism that reduces the mind-body problem to a 'brain-rest-of-the-body' problem? I think not. I believe there is a third option which allows us to affirm what each side is rightly anxious to safeguard, without having to sacrifice what either thinks it is necessary to deny.[306]

Because of MacKay's basic optimism as to the essential coherence of objective reality, he takes as his starting point not what others have said along these lines in the past, or some sophisticated metaphysical theory of his own, but the simple and

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[303] Most notably, MacKay wrote a chapter for (G. N. A. Vesey 1964). In this chapter, however, MacKay focuses on how the notion of will relates to the scientific study of the brain, leaving a metaphysical discussion of the nature of mind for later work.

[304] (MacKay 1978h)

[305] p. 600

[306] p. 600-601

undisputed facts of everyday experience—'our immediate experience of what it is like to be a *person*.'[307]

One of the most important things we know from our experience as people is that we interact with other people. We observe these other people and come to realise that they, in turn, observe us. And so it is that we are able to tell two different kinds of stories about any given event in our lives—one from the first-person, and the other from the third-person perspective. This perspectival duality roughly parallels the personal/mechanistic duality we saw represented in the grammatical chart from 'The Use of Behavioural Language' (Figure 1), which we looked at in section two of this chapter. MacKay frequently refers to this distinction as either the 'inside' versus the 'outside' view or, more commonly the 'I-story/O-story'[308] distinction.

This distinction between these two radically different but complementary forms of data (i.e. two forms of data which represent irreducibly distinct perspectives on all and only the same events) available to us as subjects forms the backbone of MacKay's epistemology—so before proceeding in our analysis of 'Selves and Brains', perhaps we should say a little more about it.

Readers familiar with the 'private language' debate in linguistic philosophy may be tempted to think of MacKay's 'I-story' as a sort of private language—especially given the fact that we have attempted to draw the 'I-story' and 'O-story' out of the 'private' experience of what it is like to be a person. Though this line of reasoning may have the *appearance* of a textbook example of a private language theory,[309] it actually has nothing at all to say to this issue. MacKay's I-story is *not* a private language, but a *story* told from a unique point of view.[310] It is not the *language* of

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[307] p. 601 italics his

[308] The 'I' and 'O' here can stand for 'inside' and 'outside'. Because 'inside'/'outside' language can be pernicious in some situations; however, MacKay also says that 'I' can stand for the first-person singular and 'O' can stand for 'observer'. In some situations (like the first eight of his Gifford Lectures), he even changes his syntax a bit, preferring the term 'brain-story' to 'O-story', though this syntax is not nearly as flexible—causing him to revert back to his old language quite often.

[309] Note the similarities between what we have said about MacKay's epistemology and Augustine's account of learning to speak, recorded in his 'Confessions' and made fun of by Wittgenstein.

[310] MacKay seemed to have noticed that his language in 'Selves and Brains' was potentially misleading along these lines, because in a paper presented in 1982 ((MacKay 1983e), p. 5) MacKay repeats a rather lengthy passage from that work—but with one important difference. That difference is that he inserts the following comment: 'In calling this starting point [the I-Story] "solid", I do not wish to enter into the hoary debate over the notion of "privileged access". What I am pointing to might be

the I-story that is private, but the *perspective.* MacKay's theory simply reminds us of the fact that our language (and thus, our epistemology) admits of both first and third-person perspectives.

Though MacKay acknowledged this essential epistemic duality as early as 1951,[311] his last presentation of this concept was one of its clearest. The foundational role played by his I-story/O-story distinction is underlined in his 1986 Gifford Lectures by the fact that it was the first concept he introduced. Indeed, only one solitary paragraph of introduction was uttered before he got down to business. The fifth and sixth sentences of his lectures read like this:

> Before we get down to detail, let me try to bring home to you what an exceedingly odd enterprise it is to try to understand our own brain, and what a huge conceptual gap there is between two very different kinds of data which the enterprise requires us somehow to tie together. All our psychological functions have what we might call an 'inside' and an 'outside' view.[312]

The fundamental project of the brain scientist, according to MacKay, is to understand the relationship between these two stories by discovering a wide range of *correlations* between different thought processes and different brain activities. This process is complicated, however, by the fact that, as conscious subjects themselves, brain scientists can only sort out the O-story by extracting it from their own I-stories. After all, as scientists gather data—whether that process be 'direct', by looking at neural images through brain scanners or microscopes, or 'indirect' by examining the work of other scientists published in technical journals, they must abstract beliefs about the relevant public events from their own personal experience (whether direct or indirect) of those events.

The fundamental project of the epistemologist, as opposed to the brain scientist, is to try to understand the *principle* on which the I-story and the O-story relate. Whether it is worked out explicitly or not, this principle undergirds many of the most prominent metaphysical positions with regard to the nature of mind.

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better labelled "obliged access"; for what I want to emphasise is that the facts of experience to which the I-story bears witness are facts we would be lying to deny.'

[311] On page 118 of (MacKay 1951d), he says, 'The false dualism which used to be expressed in the question "how can matter produce mind" would now seem to have its origin in a genuine dualism of conceptual frames of reference, defined respectively for the viewpoint of actor and spectator.'

[312] (MacKay 1991b) p.1

Traditionally, it has been reasoned that since all physical matter is at least in principle publicly observable, yet our thought life is essentially private, our O-stories must relate to the physical world while our I-stories must relate to some non-physical world. On the face of it, this sounds relatively intuitive. The difficult thing philosophers of this persuasion have had to explain is how, exactly, the physical world of the brain (described by the O-story) and the non-physical world of the mind (described by the I-story) interact. The philosophical muddles individual thinkers got themselves into as they sought to work out this interaction, coupled with the astounding success of 'objective science' (which, as we saw in chapter 3, made the essentially third-person perspective of observer-predictor a methodological goal) led other philosophers to suggest that the I-story is nothing but an immature, or emotive expression of the O-story.

It is with regard to these epistemological foundations that MacKay's position first shows signs of negotiating the tricky logical space between established views. As we saw in chapter 3, MacKay argued that complementary descriptions form distinct categories not because they describe different events, but because they describe the same events from mutually exclusive perspectives. Therefore, if we see the I-story and the O-story as complementary descriptions, the dualist has no more need of any distinct, non-physical, ontological realm. This brings us back to the line of reasoning MacKay presents in 'Selves and Brains'. He puts this argument in the following way:

> But granted that we here face a genuine dualism both of data and categories, does this require us to postulate a dualism of interacting 'quasi-substantial' entities? That my deliberate thinking and deciding (sometimes) successfully determines my physical activity is a fact I would be lying to deny. But is 'interaction' between entities the only conceptual model of such 'determining' available to us? Surely not.[313]

The dualists are not the only ones to which MacKay's analysis presents an alternative, however. After all, those who have thought it necessary to deny any real sense of duality (identity theorists) find the support they have had given their claims undermined by MacKay's analysis as well. Not only does MacKay present us with a viable third option, but he also points out that identity theory requires horrible abuses of language wherever personal descriptions are concerned.

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[313] p. 601

In contrast to the identity theorist, MacKay argues that the mind/body problem requires that we recognise a genuine duality. Equally in contrast to the interactionist, however, MacKay also argues that this duality is epistemic rather than metaphysical. The duality is not a duality of substances, but of data.

But must this epistemic duality not have metaphysical implications? In answering this question, we must be very careful to avoid the philosopher's pet peeve of confusing epistemology with metaphysics. But avoiding that confusion can also be quite confusing. Perhaps an example at this point would help clear things up a bit.

In his otherwise very clear and helpful exposition of MacKay's position on the mind/body problem, Thomas E. Ludwig appears to have fallen prey to this epistemological/metaphysical confusion. A brief analysis of one paragraph from his paper should demonstrate how this happened. We will quote in italics the specific words that are most important to our analysis. In an attempt to explain how MacKay's computer analogy helps him trace a path between interactionism and emergentist materialism, Ludwig says the following:

> How does this computer analogy apply to the mind-brain problem? Let me give you a personal example: I am absolutely persuaded that my thoughts *influence* my brain's activity. Why do I believe this? I have seen the EEG tracings from my own head, recorded in Donald MacKay's laboratory, and they show dramatic changes as I voluntarily choose to think about different topics. To say that the physical, measurable changes in my brain's activity were "determined" or "caused" by my thoughts does not require the existence of any particular organ of interaction through which my thoughts could "disturb" the normal pattern of my brain's activity. On the other hand, I reject the notion that the thoughts I was thinking were merely my way of expressing, or giving a name to, the particular patterns of activity going on inside my brain at that moment. I reject that notion, because *I had absolutely no conscious knowledge* of the patterns of my brain's activity until I saw the EEG tracings. The moment-by-moment changes in my brain's activity, observable by the EEG technician, were completely unavailable to me, the owner of the brain, as part of my conscious experience at the time.[314]

There are actually two things going wrong in this paragraph, but they appear to be related. The first thing that goes wrong is that Ludwig does one of the things MacKay warned us against—he assumes causation between categories. When Ludwig used the word 'influence' above, MacKay would have had us say 'are

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[314] (Ludwig 1997)

correlated with'. But this confusion is based on a larger one that we are still a couple of steps away from uncovering.

The second thing that goes wrong in this paragraph is that he confuses his epistemology with his metaphysics. That simply means that he committed the logical fallacy of assuming that because he could not know something, it could not have been the case. In particular, he fallaciously argues that because he 'had absolutely no conscious knowledge' of his brain activity, it could not have been his brain's activity that he referred to when he spoke of the thoughts he was thinking.

The fallacious nature of his line of thought is somewhat camouflaged by the fact that in this situation 'what is the case' is related to *his* reference. It is tempting to think that *his* reference must be connected to *his* knowledge, but to succumb to this temptation is logically treacherous. This fallacy might be a bit more evident if we experienced it on a more personal level—after all, very few would be relieved of all offence by the following excuse: 'No, really! When I said that whoever wrote this paper was a stupid idiot, I did not know that *you* wrote it—so I could *not* have been saying that *you* are a stupid idiot. I would *never* say such a thing!'

In contrast to the way that Ludwig argues this point, MacKay believed that the failure of the identity thesis is not based on any lack of knowledge on our part. On the other hand, however, the main reason we must reject the identity thesis *is* related to the *nature* of our knowledge. This distinction should become clearer (and more important) as we attempt to proceed from MacKay's proper epistemological starting point into a well-reasoned metaphysical position without confusing our epistemology with our metaphysics.

The epistemic duality that MacKay recognises implies that, with regard to metaphysics, we must deal with two distinct causal systems. This concept is very important, because we find in it the key not only to making a proper transition from epistemology to metaphysics, but also to understanding MacKay's critique of the identity thesis. It also explains *why* it is that MacKay warns us against assuming causation when all we see is correlation. This whole idea goes back to his demand that we not confuse exhaustiveness with exclusiveness. After all, the I-story and the O-story are both causal stories—yet, according to MacKay, they are complementary descriptions of the very same events.

We saw in chapter 3 that we can only legitimately call a set of descriptions 'complementary' (as opposed to 'contradictory') when the dimensionality of the subject matter admits enough distinct, valid perspectives. So, if we are to say that the I-story and the O-story are complementary, how should we define the distinct perspectives? We have said that the two stories represent (roughly) the first and third perspectives, but we also noted that MacKay did not intend the I-story to require any 'privileged access' or 'private language'. After all, as we saw in the beginning of our discussion of 'Man As Observer-Predictor'[315] for subjects A and B to participate in genuine dialogue, it is not enough for them to formulate detached O-stories of each other. A basic requirement for dialogue is that the participants infer I-stories for each other—so we cannot say that the complementary perspectives from which the I-story and O-story are meaningful are distinguished by who has access to them. But if both sets of data refer to the same event, and are available (at least in principle) to the same people, how are we to understand the required difference in perspective? In short, what is to keep the identity theorist from saying that they are just two ways of expressing the very same story?

As we said above, the epistemic duality that MacKay recognises implies that, with regard to metaphysics, we must deal with *two distinct causal systems*. His most concise statement of this duality comes in a discussion of one of his favourite metaphors—that of comparing the mind/brain relationship to the relationship between an electronic calculator and the mathematical equation it is in the process of solving. He says:

> The example also illustrates well the need to distinguish between two kinds or levels of 'causal' connection—between *physical* causes on the one hand, and what systems engineers today term *informational* or *systemic* causes on the other. Physical explanations account for changes in a system in terms of the flow and exchange of energy and force; informational explanations do so in terms of the flow and exchange of information and control. The first trace the dependence of *force* on *force*; the second the dependence of *form* on *form*. Each legitimately uses the explanatory 'because'; but much confusion arises if we fail to follow Aristotle's lead in distinguishing between the quite different senses of 'cause' involved.[316]

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[315] See discussion in chapter three of (MacKay 1955c)

[316] (MacKay 1985a) p. 105

B. What *is* a Mind, Exactly?

As implied by the above reference to 'informational or systemic causes', MacKay said that the mind is a system. MacKay develops this idea most explicitly in a paper titled 'Neural Basis of Cognitive Experience'.[317] This paper is an empirical report on a series of studies performed on split-brain patients. Apparently, MacKay conducted these experiments during his visit[318] to the lab of Roger Sperry, with whom MacKay appears to have struck up a friendship through their sparring[319] on the mind/body problem at a Vatican conference organised by Sir John Eccles,[320] and later on the pages of *Neuroscience.*[321]

Though his report on these experiments is primarily empirical,[322] he has to do a good deal of philosophy before his findings (or even his method) will make any sense. In setting out to find the neural basis of cognitive experience, he first has to tell us what cognitive experience *is,* in terms that are concrete enough to suggest helpful research. In short, as part of his justification for the manner in which he goes about looking for the neural basis of mind, he must tell us what a mind is.

The first step MacKay takes in justifying his methodology is to differentiate between the kind of study he is suggesting and searches for the neural bases of other human capacities. He begins by noting that 'An important conceptual difference confronts us at the outset between this question and those framed solely in terms of observable behaviour (whether internal or external)'.[323] In particular, looking for the neural basis of cognitive experience is radically different from the search for, say, the neural basis of visual perception. The nature of this radical difference becomes evident as

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[317] (MacKay 1981a)

[318] MacKay visited Sperry's lab as a Sherman Fairchild Scholar in 1980.

[319] For a well researched comparison of Sperry and MacKay, see (McDonald 1994).

[320] See (Eccles 1966).

[321] See Sperry's commentary, (Sperry 1980), and MacKay's response: (MacKay 1980f).

[322] In his report on the conference at which he presented his findings ((MacKay 1980g) p.390) MacKay has the following to say of his own work:

> Finally, D. M. MacKay (University of Keele) described recent experiments, based on his earlier information-flow analysis of cognitive agency, which gave evidence of goal-conflict between the two 'halves' of split-brain patients only at the executive level. The inference suggested was that the direct physical correlate of cognitive agency is not cortical activity as such, but rather the cooperative activity of a 'supervisory system' whose dominant evaluative level is embodied in diencephalic or other structures not divided by the splitting operation.

[323] (MacKay 1981a) p. 315

soon as we look for an empirical starting point to solving either question. If we are looking for the neural basis of visual perception, we start with pulses of light and work to develop the system of cause and effect set in motion by those pulses of light coming into contact with a properly functioning eye. This system of cause and effect has been effectively traced from the eye back to the brain's occipital lobe—such that we can say with a reasonable degree of confidence that the occipital lobe is the neurological 'centre' of visual perception. If we are looking for the neural basis of cognitive experience, on the other hand, it is difficult even to know where to start.

In cases like our search for the neural basis of visual perception, MacKay has demonstrated the efficacy of constructing and testing 'information-flow models'. This process can be quite straightforward in cases like this because 'all the correlations we observe are between data in the same conceptual category'—which is just to say that all the causes and effects we must work with are parts of the same causal chain.[324] With regard to the neural basis of the mind, on the other hand, we must correlate two sets of data that are qualitatively different. 'To the eye of the physiologist, the events of conscious experience seem (literally) to have no business in the tightly interlocked fabric of his explanatory models.'[325]

The reason that 'the events of conscious experience' are out of place in physiological models is that the mind is an essentially systematic property—or more specifically, it is an emergent co-operative process. Perhaps the most appropriate question to ask at this point would be what 'an emergent co-operative process' means. It means, according to MacKay, that 'its character depends not on the detailed structure formed by its elements but on their statistical capacity to promote or inhibit state-transitions in one another.' This definition would be so obscure as to be largely unhelpful if it were not accompanied by an example—and the example MacKay provides is a quite familiar one. After all, while MacKay tells us that 'A flame is a typical co-operative process', he also reminds us that 'The comparison of the human mind with a flame is at least as old as Hericlitus'.[326]

But simply saying that the mind is a co-operative emergent system is not enough—because there are lots of these kinds of systems (like flames) that are clearly not

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[324] Ibid. p. 315

[325] Ibid. p. 316

[326] All the quotations in this paragraph taken from p. 318.

minds. While, as we learned from our investigation into the grammar of mental descriptions, a full set of necessary and sufficient conditions for the existence of a mind will always contain a certain degree of vagueness, we have not yet exhausted all that we can usefully say about minds. We know, for example, that minds think about things—which means that they are evaluative processes. We also know that self-reflection is an important aspect of consciousness—which means that minds are multi-layered evaluative processes. And even more interestingly, because no feature of our intellectual experience is structurally immune to self-criticism, the layers of evaluation that make up our cognitive functioning are not static. That is to say that they are not *hierarchical* (leaving at least one process 'above' evaluation) but *heterarchical* (leaving every sub-system open to the evaluation of others). This heterarchic feature allows us to have competing desires—even to the extent that the comparative 'strength' of our priorities is not enough to make all decisions. Yet even when we hold contradictory priorities with equal strength, we do not find ourselves at an impasse. No matter how many levels of self-evaluation are already included in our cognitive process, it seems that we always have the ability to create at least one more level to 'break the tie', so that we are able to say to ourselves, 'I don't know which is *best*, so I will just pick one.'

Though it may sound somewhat complicated to say that the mind is a heterarchically related multi-level co-operative emergent process, it may turn out to be less misleading to talk this way than to adopt the supervenience language which is currently so fashionable in philosophy of mind—but we must postpone this comparison of MacKay's understanding with the non-reductive physicalist's for another project.

C. What Do Minds Do?

Now that we have a rough and ready definition of what a mind is, we must ask ourselves what this complex process can be expected to accomplish. We have seen that MacKay strongly advised against assuming causation when all we see is correlation, but if we can't say that the mind causes *anything*, what reason would we have for saying that the mind exists at all? At the end of the day, a world filled with utterly impotent minds is not going to look any different from a world with no minds at all.

MacKay reassures us, perhaps most explicitly in his 1980 letter to the editors of the journal *Neuroscience*, that while he does urge extreme caution along these lines, he is against any theory of mental impotence. He summarises his own work along these lines in the following way:

> The information-engineering analogy, however, led me to urge that in order to avoid confusion we needed different terms from 'causality' and 'interaction' to denote the interdependence of 'mind' and 'matter'.[327] To reduce the risk of misunderstanding, I proposed that we reserve 'interaction' and 'causality' for the links between events or entities at the same categorical level, whether mental or physical,[328] and perhaps speak of 'necessity' for the inter-level relationship.[329] The two-way link between mental activity and the physical activity in which it is immediately embodied is (I suggested) 'a relationship more intimate than that of cause-and-effect'.[330,331]

The reason for MacKay's claim that the relationship between what minds do and what brains do is 'more intimate than cause and effect' is that mind-talk and brain-talk refer to the very same *events* (albeit at different levels of specificity and from different perspectives) for radically different purposes. So the difference between a world full of impotent minds (or a world with no minds) and our world is that some events in our world demand explanation in both mental and physical language. In those events that demand both kinds of descriptions, the relationship between the minds in one type of description and the brains (or equivalent) in the other type is neither one of identity, independence, nor causality, but constant conjunction. The terms 'mind' and 'brain' pick out different *things*, in that the entities referred to by them belong to categories that must be kept distinct. But if the categories must be kept distinct, and particularly if the necessity of this distinction derives from our earlier claim that minds and brains participate in distinct causal chains, are we not merely retracing the doomed footsteps of the epiphenomenalists?[332]

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[327] Here MacKay refers us to (MacKay 1953c).

[328] Here MacKay refers us specifically to page 24 of (MacKay 1953c).

[329] Here MacKay refers us to page 25 of (MacKay 1955c).

[330] Here MacKay refers us to (MacKay 1960d).

[331] (MacKay 1980f) p. 1389.

[332] 'Epiphenomenalists', here, refers to those early thinkers, like Huxley, who said that minds were merely the causally impotent by-product of cerebral activity.

The short answer to this question is 'no'. The reason MacKay is not bound to a 'yes' answer here is that those categories in which the irreducibly dual causal stories come to us are also *hierarchically complementary*, meaning that for something to be true on one level (the mental) something else must be true on the other (physical) level (though not necessarily visa versa). That is just to say that the connection between 'mental properties' and 'physical properties' is neither causal (as the interactionist would say) nor trivial (as the epiphenomenalist would say), but *consistent*[333]—so that it is possible to make cross-category *predictions* even while it would be pernicious to call the relationship between the basis and the prediction 'causal'.[334]

Though MacKay's understanding of 'mental causation' as the constant conjunction of hierarchically complementary descriptions is complex, it is important for us to remember that it is not the mere metaphysical speculation of an armchair philosopher. In fact, he did not even claim that his understanding of this relationship was original. MacKay regarded this entire feature of his thought as nothing more than a clear and logically justified statement of the standard, rather well established, working hypothesis of the neuroscientist.[335]

D. Applying MacKay's Theory of Mind to the Work of Psychology

The next question that is likely to present itself is how this working hypothesis is actually to be *used* by the neuroscientist. In particular, it may serve as an apt conclusion to our metaphysical study of the mind to apply what we have learned—asking ourselves how this metaphysical theory informs the very practical process of bringing the tools of empirical science to bear on our study of the mind.

As we saw in our analysis of what MacKay said a mind is, however, the conceptual gap between metaphysics and empirical science, like the gap between epistemology

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[333] Though in the selection quoted immediately above (written in 1980) MacKay uses the word 'necessary', he was careful to back away from such strong terminology later on. On p. 402 of (MacKay 1985d), he calls the correlation of mental and physical properties a 'working assumption (and it is no more)'. Again, on p. 4 of (MacKay 1991b) he calls the consistent correlation of changes in the mind with changes in the brain 'the brain scientist's working assumption'.

[334] So, for example, it would be fine to say things like 'He is in a really good mood today, so he is likely to loan you the money if you ask him for it' while it may be quite misleading to say 'If you ask him for a loan today, his happiness will probably cause him to give you the money.'

[335] Among other places, MacKay makes this point on p. 601 of (MacKay 1978h), p. 402 of (MacKay 1985d), and pp. 4-5 of (MacKay 1991b).

and metaphysics, is not an easy one to cross. MacKay made this point in the following terms:

> The problem of relating mental activity to brain events (and vice-versa) presents difficulties of two kinds. One difficulty is to discover and evaluate relevant empirical evidence. The other and logically prior difficulty is to discover an operationally satisfactory way of framing the questions to which we would like empirical answers. The argument of this paper is that the present confused and inconclusive debate over the 'mind/brain' problem arises largely from failures in the second category. For rationally explicable reasons, this problem presents conceptual pitfalls which have no parallel elsewhere in science; I shall argue that once these pitfalls are marked and avoided, the existing evidence fits harmoniously with what each of the traditional sides in the debate wishes to affirm, without justifying the negative conclusions supposed necessary by either side.[336]

MacKay argues that when seeking to 'bridge the gap', whether between metaphysical and mental or empirical and physical descriptions, we must keep three things in mind: 1) degree of magnification (is this causal chain underspecified?); 2) type of causation (force-on-force or form-on-form?); and 3) degree of certainty (can we make a logical deduction or only a probabilistic prediction?). These three factors are in some sense distinct, but they are also very tightly related. After all, we have seen that if we want to evaluate mental activity, the data must be scrutinised at the proper degree of magnification. If we look at the relevant events in too much detail, we may understand the force-on-force causation taking place at the expense of missing the form-on-form causation—which, as we saw above, is the only type of causal story in which systematic entities such as the mind play a clear role. We must also realise, however, that viewing the relevant events at the appropriate level of magnification for form/form causation requires our predictions to be couched in terms of probability rather than certainty.

If we want to see how these principles work themselves out in practice, then we need look no further than MacKay himself. MacKay's recognition of these three tightly related points affected his career as an empirical brain scientist in several ways. First of all, as we mentioned in our discussion of what a mind is, MacKay made extensive use of information-flow models in much of his brain research. While the use of these kinds of models met with enormous success when used to explore less introspective forms of mental functioning like perception, his attempts to apply these models to

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[336] p. 285 of (MacKay 1982b)

conscious processes were, by his own admission, not always as helpful as psychologists would have liked. This is not to say that he did not produce some fascinating work along these lines, however. The work he began in a pair of papers published in 1956[337] culminated in his fascinating presentation to the 1964 Vatican conference[338]—at which he provided an astoundingly detailed model of how such a complex arrangement of supervisory systems as the human mind might work on the informational level. With this astoundingly detailed model, he also suggested ways in which empirical research could be brought to bear on the task of fine-tuning his ideas. But, as we saw above, structural aspects of the problem being addressed kept him from being able to give the kind of detail physicists had come to expect of proper science.

But limits as to the amount of detail it is possible for us to provide with regard to the mind should not be overly discouraging to psychological study. While it may mean that it would be misleading to treat psychology as a physical science, the empirical data gained as the tools of natural science are applied to the brains of normally conscious subjects are an important resource and foundation for a proper metaphysics of mind.[339]

But regardless of whether we classify psychology as philosophy or science, we must always remember that in order to focus on the mind, we cannot fall into the trap of thinking that more detail equals greater focus. After all, if our search for certainty

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[337] (MacKay 1956d) and (MacKay 1956e)

[338] (MacKay 1966b)

[339] For a historically important debate on whether psychology should be treated as philosophy or reduced to natural science, see (Brown 1974; MacKay and MacKay 1973).

takes us to a level of causal specificity that leaves no options open to the subject, we have 'missed the forest for the trees', so to speak, and forsaken our pursuit of the form-on-form causation of the mind for the force-- on-force causation of the brain.

Chapter 5: The Free Will Issue: MacKay's Theory of Logical Relativity

In our discussion of MacKay's understanding of the mind/body problem, we argued that one of the distinguishing characteristics of mental descriptions is that they must never specify any given situation in such detail that only one viable option is available to the subject of that description. The natural question that this raises is also the central question regarding the possibility of physical reductionism, namely: if it is possible (even theoretically) to provide a description of a given event in such detail that the outcome of that event is determinable in advance, how is it possible to avoid the conclusion that any so-called 'options' at a less specific level of description are merely the illusory results of ignorance? We stated briefly in our last chapter that MacKay's doctrine of complementary descriptions provides us with a response to this question. In this chapter we will attempt to present a fuller account of how MacKay dealt with these issues.

As one might expect, MacKay's answer to this question cannot be a simple one. The reason that a correct answer to this question must be complex, according to MacKay, is that it must take into account a rarely discussed paradox involving the application of our essentially third-person logical system to our selves. Acknowledging certain similarities to the paradoxes highlighted by Einstein, MacKay called this paradox 'logical relativity'.[340]

In this chapter, we will introduce MacKay's argument for logical relativity, discuss some important ways his argument has been misunderstood, and evaluate the effect

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[340] In the process of naming this principle, MacKay also made several notes about his choice of a name that may interest us here. As his second concluding point to his 1960 paper 'On the Logical Indeterminacy of a Free Choice' (which we will be discussing shortly), MacKay says:

> Second, and not unrelated, there has emerged the idea of *transformation rules* according to which it may be essential for A's belief to differ from B's in order that both may be valid. This denial of simple transferability constitutes a kind of philosophical Principle of Relativity, very different from that exaltation of the arbitrary which goes by the name of 'moral relativism'. It resembles rather Einstein's physical principle in its insistence (i) that only one rigorously prescribable belief is valid for A if B's belief is also valid, but (ii) that the validity and meaningfulness of a belief may depend in a definite and rigorous way upon who entertains it. It differs, however, in giving no guarantee that A can even formulate from his standpoint the belief that would be valid for B (until it is out of date) and in making no assumption that their situations must be symmetrical. (MacKay 1960g) p. 39

of this paradox on the credibility of MacKay's broader mind/body complementarity thesis.

I. MacKay's Theory of Logical Relativity

A. Background

The roots of MacKay's theory of logical relativity can be seen in his first exchange published by the *British Journal for the Philosophy of Science*. His first paper published by that journal ('Mindlike Behaviour in Artefacts'[341])[342] included a penultimate section titled 'Philosophical Stock-Taking'[343] in which he makes some quite provocative comments concerning the similarity between the function of calculating machines and that of human brains. While he later claimed that this paper included only three sentences regarding human free will, the context of these sentences is vitally important. For this reason, it may be wisest to quote entirely the three paragraphs he devotes to the broader issue of free will. The first two paragraphs we will quote concern the way in which it would be best to think of randomness in an artefact designed to exhibit mindlike behaviour. They set the context for the third paragraph, which conveys MacKay's thoughts on human free will. On page 119 we read:

> We are accustomed to think of completely random activity as meaningless and dull. But our artefact shows randomness in the domain which in a human being is that of *free will*; and behaviourally there is no reason in principle why the two should be distinguishable. All *systematic* components of human behaviour-patterns can in principle be simulated. What remains is by definition devoid of systematic content for the observer, i.e. it exercises no selective action on the information-space of the observer. Equally by definition, it must then be classified as the 'completely random component' of the human behaviour pattern *from the observer's point of view*. Yet in the context of the systematic component it admits of a reasonable interpretation as the exercise of free choice; and by the actor himself the calculus of responsibility is normally acknowledged to be directly applicable to it as such.

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[341] (MacKay 1951d)

[342] For further discussion of this paper, see chapter 1.

[343] pp. 117-120

> The point cannot be pressed in detail here, but it may bear further consideration, since we are so often inclined to use 'mere randomness' as a term of dismissal or almost of explanation.
>
> The connection between the apparent free will of our artefact and the determinate components of its behaviour-pattern inevitably suggests an analogy with the hoary problem of human free will. This is usually epitomised in the question, 'Is human free will genuine?' The question in this form is imprecise, but the parallel may be illuminating. The choices of a free man are seldom devoid of a statistically-predictable component; someone who knows him well can usually score a significant frequency of success in predicting his choices, though it is most unlikely that they form a stationary time-series. In the same way the choices of the artefact, given a knowledge of the various threshold levels defining transition-probabilities, are statistically predictable on a short term basis. The suggestion is that the choices of a free man may likewise be governed by statistical distribution-functions which have a psychological representation and are in principle determinate; but that individual choices can be *unpredictable in principle*, and it is probable that the distribution-functions are *indeterminable in practice*.[344]

Because the purpose of this paper was to discuss the technical degree to which it is theoretically possible for machines to mimic human behaviour, his statements on free will are understandably brief and behaviouristic. On the other hand, as we shall see, the rather rustic sketch of his views that we see here effectively foreshadows the kinds of things he will say in later discussions. In the course of the published discussion that these comments provoked, however, MacKay supplements the above statements with an important qualification, which we will do well to keep in mind throughout our discussion of MacKay's involvement in the free will/determinism debate.

These three paragraphs related to free will provoked a critical comparison of MacKay and Gilbert Ryle by M. H. Pirenne in 1952[345] and again by W. Mays in 1953.[346] In these responses both writers focus on the complex relationship between the causal descriptions of physics and the less deterministic relationship between agents and motives. Pirenne's main point seems to be that we should continue to work to take into account the first-hand knowledge we all have of our own freedom despite the fact that we have as yet (in his opinion) no satisfactory way of reconciling

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[344] (MacKay 1951d) pp. 119-120 (italics added to the final sentence)

[345] (Pirenne 1952)

[346] (Mays 1953)

it consistently with a scientifically justifiable physical theory.[347] Mays, on the other hand, is much more critical of MacKay's view. Mays' criticism, however, is based more upon a misunderstanding[348] of MacKay's position than on any genuine neglect on MacKay's part.

The extent to which the responses of these two thinkers influenced MacKay's thinking would be difficult to calculate, but their papers are important if for no other reason than that in responding to them, MacKay gives us an important clarification of his thinking. This clarification provides us with an important key to understanding his position on the free will question. In particular, his comments remind us that even while arguments concerning the essential unpredictability of free action may prove to be the most logically intriguing aspect of his theory, they are not the most important. After demonstrating the error in Mays' interpretation and acknowledging sympathy with Pirenne's position, MacKay makes the following comments:

> My three sentences on human choice I now regret, not indeed because they seem any less valid, but because I consider unpredictability to have less importance than other criteria for determining responsibility, and I think the emphasis laid by omitting to say so was wrong. Fascinating though the implications of unpredictability are for moral philosophy, I am convinced, as I have pointed out elsewhere,[349] that it does not offer the proper solution to the apparent problem of free will.[350]

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[347] Pirenne's central criticism of MacKay is expressed in the opening statement of his paper. He says:

> In his paper on 'Mind-like Behaviour in Artefacts', Dr. D. M. MacKay says of his mechanical analogue of the human brain that it 'shows randomness in the domain which in a human being is that of free will; and behaviourally there is no reason in principle why the two should be distinguishable.' This may be quite true, but then many a reader will say: I know from my own direct experience that free will and indetermination are not the same; accordingly, since I have free will, I conclude that I am essentially different from such a mechanical artefact, at least in some respects. Dr. MacKay, however, writes that 'no reputable theologian expects to find physical laws disobeyed in the human brain.' This suggests that in Dr. MacKay's opinion man is after all essentially similar to such an artefact. It is because it obeys physical laws that the artefact has no free will, but only indeterminate behaviour. If physical laws rule in the human brain in the same way as in the artefact, it is hard to see how there can be any genuine human freedom. The present writer fails to understand how Dr MacKay's conception, in spite of its complexity and ingenuity, is compatible with free will not being an illusion. (p. 315)

[348] Even if Mays' misunderstanding of MacKay's position were not clear from a simple reading of his paper, the first two paragraphs of MacKay's response should settle the issue.

[349] MacKay's footnote: 'An artefact's approximation to voluntary behaviour', paper read before the Philosophy of Science Group on October 13, 1952, to be published later; also 'From Mechanism to Mind', *Trans. Vict. Inst.,* forthcoming. See (MacKay 1953c).

[350] (MacKay 1953f)

As these comments demonstrate, MacKay had, by this point, developed an understanding of the relationship between the laws of nature and human freedom that allowed him to affirm our undeniable first-person sense of being free while at the same time maintaining that we are truly responsible for our actions. His way of looking at these questions involved, as we discussed in chapters 1 and 2, his understanding of logical complementarity. As his thinking along these lines evolved, MacKay also came to recognise the importance of an interesting kind of paradox concerning the way in which the truth value of 'objective' or 'third-person' predictions are fundamentally limited when applied to entities capable of forming belief structures.

This paradox, which was the justification of his call for us to recognise the principle of logical relativity, eventually became his most trusted defence against the claim that determinism at one level of description (brain physiology in particular) diminishes the value of any claim to freedom made at another level of description. As we turn to discuss this paradox, however, it is important that we keep in mind the fact that logical relativity is only one point in a multi-pronged defence of his position. We may also recognise the irony in the fact that even as MacKay was emphasising (as we saw immediately above) the fact that unpredictability 'does not offer the proper solution to the apparent problem of free will', he was also coming to recognise the importance of a paradox concerning the relative truth value of deterministic predictions.

B. The Origin of the Paradox

In the early 1970's, sixteen years after MacKay's response to Pirenne and Mays, the *British Journal of the Philosophy of Science* resumed its publication of papers questioning his views on freedom.[351] This time, the criticism centred on the paradox to which we have been alluding. In his first response[352] to this second wave of criticism, MacKay explained how he came upon this paradox.[353] It appears that in

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[351] See the following papers: (MacKay 1971a).(MacKay 1973b; Landsberg and D. A. Evans 1970; Thalberg 1970; Good 1971; Watkins 1971; Evans and Landsberg 1972; McDermott 1972; DeWitt 1973)

[352] (MacKay 1971a)

[353] He gives a similar but summarised explanation of how this happened in his Gifford Lectures. See (MacKay 1991b) p. 207.

the course of a discussion that began in the late 1940's concerning various aspects of brain mechanics,[354] MacKay introduced a thought experiment he called the 'cerebroscope'.[355] Basically, the thought experiment involved imagining a brain scanner that could produce live reports on what a subject was thinking.

The paradox began to show itself when it came time to talk about what would happen when the cerebroscope was set up to report what the subject was seeing, and the subject was watching the cerebroscope. What we would expect to happen in this situation is that the scanner would go haywire with feedback in the same way that an amplifier does when a microphone is placed in front of a speaker.

To get around this paradox, the group imagined that the cerebroscope displayed its results in words rather than in pictures. Though this new situation would obviously result in more information being displayed than could be comprehended in 'real time', it would also solve the feedback problem—at least with regard to vision. The interesting thing about this thought experiment, however, is that the paradox was not removed altogether. After all, if the cerebroscope was set up to display the current set of the subject's beliefs, an even deeper paradox emerged. If the subject (for grammatical simplicity, let us assume that the subject is female in the situation to be discussed) believed what she read on the cerebroscope's display, then when the cerebroscope was set up to display her beliefs, we would find a kind of feedback. It would have to say that she 'believed that she believed that she believed that she believed . . .'.[356]

MacKay's first published allusion to this paradox came in 1954[357] when, in a final section (titled 'postscript on perspective') of a paper titled 'On Comparing the Brain with Machines' he briefly explained his position on the relationship between physical

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[354] These discussions reportedly took place among members of 'The Ratio Club', which met at the National Hospital in London. The club consisted of around twenty members, including MacKay, A. M. Turing, Horace Barlow and others.

[355] As to when he introduced this thought experiment, MacKay says 'I think in 1952'. (See citations above.)

[356] Obviously, the converse of this example would also be problematic—for if she disbelieved what she was reading, the only thing that would change in the readout is that 'disbelieves' would have to replace 'believes'. Likewise, if she believed only up to a point (or some other combination of belief and disbelief), then the cerebroscope would still be unable to complete a statement, it is just that the regress would use 'believes' and 'disbelieves' erratically.

[357] (MacKay 1954b)

determinism and the freedom (and resulting responsibility) of agents.[358] Because this first published reference sets this paradox so well within the wider context of his system, it will be best again to quote a rather lengthy selection. The last three paragraphs of his paper read as follows:

> It is not because I believe my brain to work indeterministically that I judge myself to be responsible. On the contrary, the more physically reliable my brain is, the less excuse I have from my responsibility. There is an unpredictability that goes with my responsibility, but that is something different. It is the unpredictability to you of what I shall do if you *offer* me your prediction. As a little thought will show, you would never be able to cope with this by allowing for the effect of your prediction on me, since I should always be one jump ahead of the data on which you could base it.
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> To sum up, I believe most seriously that man is 'more than' the physical organism we can describe in observer-language. But I believe that this implies, not necessarily that there must be gaps in the physical account of his activity, but that he has other *aspects* that are revealed only by using another complementary language to describe the same activity, which in its full nature transcends and combines what can be said in each.
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> To explore the implications of such complementarity may throw some light on the age-old paradox that though we are but dust, we are held responsible in the sight of God our Maker. But of this responsibility, whatever our attitude to it, no increase in our understanding of the brain can relieve us.[359]

Though such phrases as 'as a little thought will show' may not offer the degree of guidance we need to trek with him through such a tricky maze as the one we have entered into here, in the thirty-five years following this publication, MacKay was to demonstrate this paradox much more explicitly—and to a very wide range of thinkers. We will now draw on several of these demonstrations as we attempt to investigate this paradox as fully as possible.

C. Towards a Fuller Explanation of the Paradox

Of all the works in which MacKay explains his theory of logical relativity, the one that he seems to refer to most often is 'On the Logical Indeterminacy of a Free

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[358] MacKay identifies (MacKay 1954b) as his first reference to this paradox in (MacKay 1971a).

[359] (MacKay 1954b) p. 406

Choice'.[360] The stated purpose of 'On the Logical Indeterminacy of a Free Choice' is to call into question what MacKay refers to as the 'stock argument' of those who think that an advanced physiology of the brain would deny our subjective sense of personal freedom. MacKay summarises this 'stock argument' as follows:

> If my physical brain-processes were wholly physically determined, and if my decisions could be inferred uniquely from my brain-processes, then a fully-informed observer of my brain-processes could know the outcome of my choices with certainty before I made them, and my impression of freedom in making these choices would therefore be an illusion, due to mere ignorance of the true state of affairs.[361]

While many other would-be defenders of freedom from this attack would point to some supposed structural indeterminacy in the human brain (usually resulting more or less directly from Heisenberg's uncertainty principle), MacKay consciously avoids this move. The reason that he does not want to appeal to indeterminacy is that, as we shall see, he believes such arguments to be 'misguided and immoral'.[362]

MacKay believes that appeals to indeterminacy are misguided for at least two reasons. Firstly, as MacKay points out in an earlier paper, 'my responsibility is adequately nailed to my door if my choice is logically indeterminate *until I make it*—which could be true even if my brain showed no physical discontinuities'.[363] Secondly, arguments from indeterminacy are misguided in that they, like the old God-of-the-gaps arguments of bygone days, stake the validity of their position on the assumption that certain causal forces will never be understood by physical science. In this important regard, such arguments are, quite literally, founded on ignorance—which is almost never a good idea.

In addition to this form of argument being misguided, however, MacKay also believed it to be immoral. The reasons for MacKay's claim that this form of argument is immoral were also stated in the earlier paper we referred to above. He said that they are immoral because:

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[360] While the first version of this paper was presented to the XIIth International Congress of Philosophy (MacKay 1958d), MacKay usually refers to the expanded version of this paper printed by *Mind* in 1960 (MacKay 1960g).

[361] (MacKay 1960g) p. 31

[362] (MacKay 1960g) p. 31

[363] (MacKay 1957a), quoted from p. 402 of the reprint in (G. N. A. Vesey 1964) italics added

> . . . a reliance on physical indeterminacy would deny responsibility for choices (whether good or bad) for which I think a man has a right to claim responsibility. This is no less distressing because those who hold such views do so in the name of human dignity. But I believe that our true dignity lies in having the humility to see ourselves for what we are: and I am convinced that the Christian doctrine of man at any rate, in all its fullness, requires no licence for his brain to suffer non-physical disturbances. There is, as I have said, a profound mystery in our human nature; but it stands wholly apart from any scientific puzzles that we may find in the brain. It will be in our wisdom to avoid any temptation to confound the two.[364]

Because MacKay thinks it so inadvisable to argue for any kind of freedom and responsibility based on indeterminacy, he grants (at least for the sake of argument) the premise of the argument he set out to refute. Instead of denying the premise, MacKay denies the validity of the argument. He argues that even if we were to assume that the very strictest theories of determinism with regard to the physical workings of our brains were correct (though he points out repeatedly that he, as a brain scientist, sees little reason to hope that it will ever be possible to predict the outcome of any given brain process with anything other than statistical probability), the conclusion—that we would be wrong to believe in what is commonly known as 'free will'—would not follow. In highlighting the invalidity of this 'stock argument', he draws our attention to the paradox at the heart of logical relativity.

The paradox we are seeking to uncover comes about when we think about what the world would be like if the premise of the argument against freedom really were true. In many of his works on this subject,[365] MacKay asks us to expound on this premise by means of a thought experiment. MacKay asks us to imagine a world in which all physical matter behaves according to a finite set of absolute physical laws. In this imaginary world, we are also to imagine that brain science has advanced to the point that some super-scientist (we will call her Anna) is capable of calculating all the causal forces acting on her subject's brain at a given time so accurately that she can, based on the deterministic physical laws of her universe, accurately predict the exact state of her subject's brain at some time in the future. And then, based on this brain-

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[364] (MacKay 1957a), p. 402 of the reprint in (G. N. A. Vesey 1964)

[365] To name but a few, see his paper 'Man as Mechanism' (originally printed as (MacKay 1960d), but reprinted as chapter 2 of (MacKay 1966c) [esp. pp. 62ff]), (MacKay 1974b) pp. 78ff, and especially his Gifford Lectures (see (MacKay 1991b)pp. 113ff) . For a helpful variation on this thought experiment (making use of the super-scientist in a slightly different kind of prediction) see also his Riddle Memorial Lecture ((MacKay 1967a) pp. 55ff).

state prediction, Anna is further able to read off a prediction of what that subject's future mental state will be—such as the outcome of some decision.

If there is any merit to the argument MacKay set out to investigate, surely any dreams Anna's subjects may have had concerning their own freedom would be dashed to pieces by her definite and necessary predictions. But if we think more closely about the situation we have imagined, we will be forced to recognise a paradox that, according to MacKay, invalidates the argument's final conclusion. For more detail on how this works, we return to the central argument of his 1960 work.

MacKay's reasoning in 'On the Logical Indeterminacy of a Free Choice' unfolds in three distinct stages. In his introduction, he characterises these stages as follows:

> First, we shall take note of some peculiar restrictions on the predictive certainty attainable in principle by the observer of an agent. In the light of these, we must next question whether 'the true state of affairs' can validly be identified with the view of the observer, and whether the agent who does not share that view can validly be described as 'ignorant'. The answer will lead us finally to recognise a curious kind of 'relativity principle' governing talk about the acts of agents, which—if I am right—shows the stock argument above to be fallacious.[366]

1. 'Peculiar Restrictions'

In the case that we have imagined, MacKay argues, there is one very important restriction that must be placed on Anna and her predictions with regard to the future brain states of her subjects: for her predictions to be valid, she must (logically must) keep them secret from her subjects. Though Anna's case is, for multiple reasons, more philosophically interesting than the case of the real time brain scanner, the two cases are importantly similar.

What happened with the cerebroscope was that we ran into a technical difficulty with feedback in the system. Similarly, if Anna is not extremely careful with her predictions, she will run into her own kind of feedback problem—though her difficulties go deeper than mere technicalities.

The reason Anna must be careful with her predictions is that if her subjects ever become aware of them, these predictions are bound to produce some change in their brain states. If this were to happen, she would obviously be required to take these

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[366] (MacKay 1960g) pp. 31&32.

influences into account. The problem is that in order to judge what effect her predictions would have, she must know the content of those predictions—which means that in order to make an accurate prediction, she must already know what her prediction is going to be. So, to put the matter more clearly, in order to complete her calculations, she must already have completed them. This, most would agree, would be a feat that even the most supreme of super scientists is unlikely to accomplish.

2. Anna's Predictions And 'The True State of Affairs'

Though we may not have initially expected Anna to be obliged to operate in secret, this restriction by itself would not appear all that overbearing. So far, at least, we have uncovered nothing so absurd that incompatibilists need worry overmuch about the validity of their stock argument.

But we must also take care to remember that the argument regards what a person *is right to believe* regarding his or her own freedom. This brings us to consider the question of what the subjects of Anna's predictions would be right to believe concerning the validity of her predictions.

In a very general sense, we may want to say that the subjects would be right to believe that Anna's predictions would be true (even though, of course, they can never know the content of any given prediction concerning themselves). After all, even if they cannot be told what Anna's predictions are, it would seem reasonable for Anna's subjects (particularly if they knew that Anna was a super-scientist and that they were living in a physically determinate universe) to believe very strongly in Anna's ability to predict their future. In admitting this general sense of belief in her predictions, what we are saying is that Anna's subjects would seem quite justified in writing her a kind of 'epistemic blank cheque', such that what her subjects might believe is something like, 'I don't know what Anna is predicting exactly, but whatever it is, that is what I believe'.

But the problem for the incompatibilist is that this general form of belief is the only kind of belief Anna's subjects can ever rightly have concerning her predictions. If she ever were to 'fill out', so to speak, her 'epistemic blank cheque' the cheque would be invalidated. This is why the secrecy requirement is so interesting. If Anna's subjects were ever to believe any individual prediction concerning their own brain states, they must *know* that individual prediction, and that prediction would be thus invalidated. It would seem to follow, therefore, that in any given situation, there

cannot exist any prediction concerning what they will do (based on any form of mechanistic brain science) that they would be correct to believe. This follows because while 1) it is impossible to believe any specific thing that one is not aware of, 2) we have already demonstrated that if Anna's subjects are aware of her predictions concerning themselves, that prediction must be invalid, because 3) it is logically impossible for any prediction to be soundly based on causal reasoning that involves a vicious regress.

Though it would seem quite uncontroversial to say that all people (even the subjects of Anna's predictions) would be right to believe 'the true state of affairs', the question at this point in our analysis becomes what this 'true state of affairs' is. If Anna's predictions are kept from influencing her subjects, we might be tempted to say that her predictions represent the true state of affairs. But in this situation we have a real paradox on our hands. On the one hand, we have said that her subjects would *not* be right to believe any of Anna's individual predictions[367] (because if they believe the predictions, the predictions are thus invalidated). On the other hand, however, it would seem that, at least in cases where the subjects cannot catch word of her predictions, isolated observers (including Anna and all others that are not the subject of the prediction in question) would be correct to believe that her predictions are valid. And so we see that what Anna's subjects would be correct to believe is different from what Anna and the isolated observers would be correct to believe. So, if the converse of our 'uncontroversial' statement concerning 'the true state of affairs' is true, then 'the true state of affairs' must be different for the observers and the subjects.

With regard, then, to the argument for incompatibility on which he calls this paradox to bear, MacKay says the following:

> My suggestion, then, is that our 'firm subjective conviction of freedom' is not primarily a belief about the unpredictability of our brain-processes but is the entirely justifiable corollary of these peculiar logical facts. For us as agents, any purported prediction of our normal choices as 'certain' is strictly *incredible*, and the key evidence for it *unformulable*. It is not that the evidence is unknown to

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[367] They could, of course, *come* to believe them *after* the fact—but by that time her 'predictions' would no longer regard the subject's *future* but the subject's *past*—making them *descriptions* rather than *predictions*. Besides, it would be quite uncontroversial to say that a subject is not free to change his or her *past*. What is meant by 'freedom' is that the subject is able to make genuine choices concerning his or her *future*.

> us; in the nature of the case, no evidence-for-us at that point exists. To us, choosing is not something to be observed or predicted, but to be done.[368]

3. Principle of Logical Relativity

It is important, if we are not to misunderstand where MacKay is going with this paradox, to remember what his doctrine of complementary descriptions is all about. In particular, it is important that we recognise the fact that MacKay is arguing for a kind of *relativity*—not *relativism*. While *relativity* involves the recognition of the fact that what one would be right to believe depends on one's *relation* to the objects of that belief, *relativism* (i.e. the thesis which MacKay explicitly *rejects*) states that objectivity is a mere fiction. The true purpose of MacKay's argument may be clarified by asking what he would think it would be right for a third party (an observer detached from both Anna and her subjects) to believe concerning what Anna and her subjects would be right to believe. For the sake of linguistic simplicity, we will call this third party detached observer 'Big Brother'. If what we discussed earlier regarding MacKay's doctrine of complementary descriptions is true, Big Brother would be right to believe that both Anna and her subjects are right in believing *different things* with regard to the state of affairs in which they are involved. But it is not enough to say that what Anna and her subjects would be right to believe is *different*, for what they believe must be *appropriately* different. That is, Big Brother would be right to believe that what Anna and her subjects would be right to believe would be the state of affairs summarised according to their individual, appropriate, perspectival indexes. For Big Brother, Anna, or Anna's subjects to believe anything other than their own perspectivally indexed truths would simply be wrong. With regard to how the concept of personal freedom relates to these complementary perspectives, MacKay says the following:

> If, however, we are concerned to ask what a *member* of our linguistic community may validly believe (e.g.) about the actions he would subjectively term 'free', I see no escape from the necessity to make room for two complementary stories, one validly believable only from the standpoint of detached onlookers, which the agent would be wrong to try to believe until after his action, the other validly believable from the standpoint of the agent,—and by the onlookers too insofar as they permit themselves the exercise of sympathetic imagination. The two are not mere *translations* of one another, since it is *what is asserted* by

[368] (MacKay 1960b), p. 37

> the onlookers, and not just its conventional *form*, that is logically unacceptable to the agent; yet (*ex hypothesi*) there is a definite *transformation rule* by which (in retrospect at least) the accuracy of one may be checked in terms of the other.[369],[370]

But in all this, we are working our way into ground already covered in chapter 3.[371]

One more thing that should be mentioned before we move into a discussion of MacKay's critics, however, is what could be called 'the condensed version' of MacKay's argument for logical relativity. Rather than bring the entire imaginary apparatus of the super-scientist into play, the 'condensed' version of this argument hinges on the relationship between *truth* and *what we ought to believe*. In particular, MacKay's argument depends on the paradox presented when we consider what it would be correct for a subject to believe with regard to any complete description of his or her own present or immediately imminent set of beliefs. If the description is *true*, then it will be true whether any given person believes it or not—for such is the nature of objective truth. But since it regards the set of a given cognitive agent's beliefs, then it *cannot* be said to be true whether that person believes it or not. After all, if it is truly a complete description, it must describe that person as *either* believing it or not believing it. This condensed version of MacKay's argument has received less attention than his expanded argument, however, probably because it

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[369] (MacKay 1960g), pp. 38&39.

[370] In a parallel passage, published five years later, (MacKay 1965c) p.268, MacKay puts this point in the following terms:

> Our main conclusion is that the human sciences have to reckon with an epistemological Principle of Relativity, whose consequences are more far-reaching than is sometimes supposed. Because scientist and subject are members of the same linguistic community, the domain of scientifically ascertainable 'objective fact' inevitably contains significant lacunae, particularly around the choices of agents. In these areas the difference in standpoint between scientific observer and agent leads to a necessary difference between the beliefs of each if both are to believe rightly. Even retrospectively, the only agreement possible in principle is that each was justified in his belief, because the two 'transform correctly into' one another. Since the selective functions of the two are different, it would be a mistake to call them translations of one another. They are correlates, which have a single set of happenings as their subject; but they view these happenings from mutually exclusive standpoints. Any superficial appearance of anarchy is therefore illusory.
> Much work needs to be done to clarify the nature of the transformation rules linking the observer's and agent's views, but that in human sciences the link *is* in general a transformation, rather than a translation, seems undeniable.

[371] See section I. C. 3.

bears so many similarities to other paradoxes that have been familiar to logicians for a long time.[372]

II. Some Objections to MacKay's Position

Now that we have completed a rough sketch of MacKay's argument for logical relativity, the time may be right to introduce a brief discussion of some of the most important misunderstandings of MacKay's position. Hopefully this discussion will not only help us to understand how his ideas were received, but will also help us to understand some of the most relevant of the finer points of his theory. As in the second part of chapter 3, we will work in the hope that in getting clear on what MacKay did *not* mean, we will understand more clearly what he *did* mean.

We will first discuss a few general types of misunderstanding, and then proceed to evaluate a few of MacKay's key critics.

A. Important Misunderstandings

Any theory as logically complex as MacKay's doctrine of logical relativity is bound to be misunderstood far more often than it is properly grasped (especially when such a theory is presented to such a wide variety of audiences). Though it would obviously be impossible to anticipate every way MacKay's theory could be misunderstood, there are two kinds of misunderstanding in particular that seem to be so common that some brief comment is in order. These are: 1) MacKay is simply equating freedom and unpredictability and 2) MacKay's view of freedom is essentially the same as the ancient Stoic view.

1. MacKay is Simply Equating Freedom and Unpredictability

The first misunderstanding we need to address can be dealt with quite briefly. It is perhaps most clearly expressed by the title to J. McDermott's 1972 paper 'I'm free because I know that I don't yet know what I am going to do?'[373]

We will attempt to put this misunderstanding to rights by simply re-stating this title in words that rightly portray MacKay's line of thought: 'I am free because I know

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[372] As will be known by students of the history of philosophy, Bertrand A. W. Russell (1872-1970) developed his notorious 'theory of types' specifically to deal with this kind of paradox.

[373] (McDermott 1972)

that I *have not yet decided* what I am going to do.' This change from McDermott's title demonstrates the *reason* 'I don't yet know what I am going to do'—and that is the important bit. The point made by MacKay is that I know I do not know because I *cannot know*—because it is impossible for any true prediction to exist. It is this ontological point that MacKay is making, not the lesser epistemological point that, as McDermott rightly points out, would (if alone) be irrelevant to the question of whether or not we were right in believing that we are free.

2. MacKay's View of Freedom is Essentially the Same as the Ancient Stoic View

Because this misunderstanding is significantly more complex than the first one we dealt with, it will not be possible for us to deal with it quite so quickly. It is of vital importance to MacKay's project, however, because it stems from a misunderstanding of the relationship between object language and subject language. Though this misunderstanding was rarely written about, it is expressed quite clearly by one of the participants in a published discussion on logical relativity.[374]

In this discussion, one of MacKay's interlocutors remarks that the paradox of logical relativity sounds a lot like the Stoics' understanding of freedom. In the words of this interlocutor, the Stoic view was that 'If a freely falling stone could think, it would believe that it falls of its own free will. Seen from the inside, I have a choice at any moment; but seen from the outside, I am completely determined.' MacKay's response to this comparison invites a slightly fuller discussion of the relationship between object language and subject language. He said:

> That's just what I want to deny. It is not seen from the outside that *I* am completely determined; what's seen from the outside, or rather what's valid for the outsider, is that my bodily processes are determined. That is not logically the same thing. If it were, it would lead to the suggestion 'Well, you're free to believe what you like, but perhaps you are in error in believing what you like.' My point is that the agent is not in error in believing what he does; that the 'outside' data do not establish what is 'really' the case, in such a sense that he's in error in believing that his choice is underdetermined.[375]

If a falling stone could think, it would more than likely be *wrong* to believe that it fell of its own free will. Whether or not it fell of its own free will would depend

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[374] See (MacKay 1964g) for the full discussion. It was an informal discussion, so the person who provided us with this helpful misunderstanding will remain unnamed.

[375] (MacKay 1964g) p. 360

largely on how it got into its falling state. If its fall was not caused by its thinking, it would be wrong for the stone to think that it fell of its own free will. But it would be equally wrong for *any* embodied cognitive agent that, say, had been pushed off a cliff to believe that it fell of its own free will. On the other hand, if a stone *really* could think (and not just imitate thinking or something of the sort), then the stone *really would be free* in some sense. While it may not be free to fall or not fall (because, we suppose, not even thinking stones could *jump*), the thinking stone *is* free to think—for what else could we make of its supposed ability to think? In short, real thinking must be really free. Real falling, on the other hand, can only be said to 'be free' by extension. The distinction we are attempting to make here is the distinction between what we do as subjects (i.e. mental activity) and what we do as objects (i.e. physical activity). This distinction is important because in talking about our selves, we are talking about embodied subjects—so both forms of activity apply to us, though the language we must use to accurately describe that activity operates on distinctly different grammatical systems.

According to MacKay, the distinction between object-language and subject-language is the key to understanding the relationship (or rather, *lack* thereof) between the successes of physiological brain science and the validity of our subjective sense of freedom. The fear that our subjective sense of freedom will be undermined is generally the result of confusing our selves-as-objects with our selves-as-subjects. MacKay makes this point clearly in the following statement:

> So I am suggesting that if we are to make sense of the question of what is classically known as 'free will' by asking, for example, whether I could have done otherwise if my brain were a physically determinate system, we must not at any cost allow ourselves to confuse that with the question: could my *brain* have done otherwise. The reason is that it is not brains but persons who choose, persons who have I-stories to tell. There is no sense that I can see in attributing free will to brains: brains aren't the kind of things, poor objects, to have free will. But persons certainly are, at least they are claimants.[376]

B. Key Critics

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[376] (MacKay 1991b) p. 203-4

Though MacKay's critics with regard to this particular aspect of his thought are legion, it is a truism of philosophical discourse[377] that not all criticisms are created equal. With regard to our present purposes, the three critics with the most legitimate claims to our attention would be C. J. F. Williams, J. Watkins and William Hasker. Though each, at the end of the day, disagrees with MacKay in some more or less important detail, their criticisms draw out aspects of MacKay's thinking that might otherwise be easily overlooked. For this reason, regardless of the degree to which we sympathise with their objections, their work is very important to our study.

1. Williams

The editorial aim of the journal *Analysis* is to provide the scholarly community with short, logically rigorous discussions of various contemporary philosophical positions. In October of 1960—only nine months after the publication of 'On the Logical Indeterminacy of a Free Choice'—C. J. F. Williams offered the editors of *Analysis* just what they were looking for. Though the entire exchange between Williams and MacKay does not even completely fill six pages, their logical trail goes through so many twists and turns that even an experienced tracker would be required to travel many leagues to catch them. Though we will concern ourselves as little as possible with the intricacies of their exchange, a broad overview of what goes on there should highlight several important points.

a) Williams' Objection[378]

Williams argues that while part of MacKay's argument is sound, the part of the argument that pertains to logical relativity is overstated. The part of MacKay's argument that Williams believes is sound is that part which precludes Anna's subjects from believing her predictions concerning their future. He sets out to demonstrate that logical relativism does not follow from this part of MacKay's argument, however, by introducing a logically parallel proposition.

So, to MacKay's proposition: 'Provided A does not get to hear of this, he is certain to do X',[379] [380] Williams proposes the parallel 'A is mistaken in thinking *p*'. This

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[377] Unfortunately, this 'truism' is particularly justified when it comes to those philosophical discussions that have some religious significance—whether that significance be real or merely in the heart of the critic.

[378] (Williams 1960)

proposition is parallel because, as Williams points out, it 'expresses a proposition which is impossible for A himself to express'.[381] Using this parallel proposition, William argues that if MacKay's 'logical relativity' has any merit, then not only is it impossible for Anna to provide her subjects with a prediction of their future that demands their unconditional assent, but it is also impossible for any statement about false belief to be universally true.

b) MacKay's Reply[382]

Though MacKay is unhappy with some of the finer points of Williams' argument, he seems, for the most part, to agree with Williams. The only thing that MacKay seems to disagree with Williams on is the relationship between Williams' analysis and MacKay's original argument.

To demonstrate his sympathy with Williams, MacKay quotes the topic sentence in Williams' concluding paragraph ('If the proposition that A will do X is true for anybody it is true for everybody, even for those who cannot express it'), and responds with the following analysis:

> Now (oddly enough) I am so far from disputing this last dictum, that my argument can actually be summed up by its converse: if a proposition is demonstrably *un*true for anybody, it *cannot* claim to be true for everybody.[383]

MacKay follows up this point by highlighting the fact that the *untruth* of any prediction that would deny an agent's sense of freedom is precisely what he set out to demonstrate. The whole point of the logical relativity argument is that even if our brains were as mechanistic as clockwork, an agent could defy anyone (even a super-scientist) to provide a true proposition describing any activity which the agent's subjective sense of freedom would lead that agent to believe was the outcome of his

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[379] See (MacKay 1960g) p. 33.

[380] In MacKay's paper, 'A' stands for anyone we would call one of Anna's male subjects. (Remember that Anna and her subjects came into our discussion only by means of an explanatory side note to 'On the Logical Indeterminacy of a Free Choice'. When MacKay brings hypothetical people into his discussions, he generally gives them boring names like 'A', 'B' and 'C'. These boring names, no doubt, allowed the analytic philosophers of his day to take his arguments more seriously—but that is more of a note on history than logic.)

[381] (Williams 1960) p. 12

[382] (MacKay 1961f)

[383] (MacKay 1961f) p. 82

or her future decision. As we saw earlier in our discussion, in arguing for this point, MacKay concedes the fact that some super-scientist in our hypothetical deterministic universe could produce predictions that may be *valid* for all detached observers (provided that the subject does not come to be aware of it). But MacKay also argues that this prediction cannot be called *true* because it would not be valid for the subject of that prediction (i.e. the subject would not be right to believe it).

With regard to the parallel proposition, proposed by Williams, MacKay agrees that it is parallel in the sense that 'In each case, A is logically precluded from believing as "true now" what is asserted secretly by the observer'.[384] The difference, however, is that the propositional form of Anna's predictions ('Provided A does not get to hear of this, he is certain to do X')[385] is necessarily future-oriented (by virtue of the fact that it is a *prediction* rather than a *description*). Not only that, but the case of Anna's subjects is also different in that the difficulty is not the result of anyone's having believed improperly. While on the one hand (in the case of false belief) A can look back and admit that he could not express the true proposition (at the time he held the false belief) because his belief structure was importantly out of sync with *the truth*, on the other hand, with Anna's prediction, it was not the *truth* that A's beliefs were out of sync with, but the *majority*.[386]

c) Williams' Response[387]

Though there are still several points of disagreement (and, perhaps, misunderstanding) between them, in his response to MacKay's reply, Williams reminds us that he has conceded the central point to MacKay's argument, but reminds us that there are still issues to be dealt with. He says:

> I suspect that MacKay is confusing the logical impossibility of A's saying 'Provided I do not get to hear of this I am certain to do X', with the causal impossibility (inside MacKay's original story) of A's hearing about the prediction without the data for it being upset. If the

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[384] (MacKay 1961f) p.82

[385] (MacKay 1961f) p.82

[386] Because MacKay's response is so brief, we have had to rely on some later sources (particularly (MacKay 1971a)and (MacKay 1967a)) for this analysis. The content of these papers does not appear to be any different, but without the elaboration he provides there, it would be difficult to know that we had properly understood his argument in this response to Williams. We will elaborate somewhat on this line of reasoning, however, in our treatment of Watkins' criticism below.

[387] (Williams 1961)

> fanciful account of psychological determinism which MacKay has given us were correct, A would indeed be 'wrong to believe' that it was certain that he would do X, because, as a matter of fact, the only data on which the reasoning could be based included his ignorance of the prediction.[388]

So, to unpack this response a bit, what Williams is essentially saying here is that we are right when we say that Anna's subjects can't believe any of her predictions. But the reason they can't believe them must be either *causal* or *logical*. If it is *logical*—as suggested by the name 'logical relativity'—then the subjects cannot believe the prediction because of the logical implications of the proposition expressed by the prediction. Whatever Anna's reasons for making the predictions she makes, if we say that it is *logically* impossible for her subjects to believe them, we are saying that believing them would necessitate a logical contradiction (as in the case of a person believing that he mistakenly believes something). If, on the other hand, the reason is *causal*, this means that it has more to do with the causes leading up to any valid prediction than the logical value of any proposition expressed by such a prediction.

As we know from the form of MacKay's argument, it is for these 'causal' reasons that our imaginary situation is paradoxical. The situation is paradoxical because any influence the prediction might have on the subject would substantially alter the basis on which any valid prediction would be made. On the other hand, as Williams points out by asking us to consider what the situation would have looked like if Anna were not a super-scientist but a super-astrologer[389] (and could thus make her predictions based on forces out with her subject's domain of agency), the subject's believing the propositions named by Anna's predictions would not be problematic at all if logic were all that we had to consider.[390]

With regard to MacKay's claim that the proposition named by Anna's prediction requires it to be future-oriented, Williams substantially disagrees. He claims that the only difference between the sentences 'Provided I do not get to hear of this I am certain to do X' and 'Provided I had not got to hear of this I would have been certain

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[388] p. 85

[389] p. 85

[390] Obviously Williams has not considered what we have called MacKay's 'condensed argument' worthy of comment, though it would, of course, present just the sort of logical difficulties Williams appears to be interested in.

to do X' is the temporal perspective from which it is spoken. From this, he reasons that though the statements have different forms, they both say *the very same thing.*[391]

To draw all this to some sort of conclusion, the essential objection Williams seems to be making is that, contrary to what we may be tempted to infer from the name 'logical relativity', MacKay's argument *does not* stand on strictly logical principles. On the contrary, MacKay's thesis stands only when based on causal features of the imaginary world created by the peculiar assumptions of his thought experiment.[392]

d) The Lesson of the Williams Debate

Some readers who are sympathetic with MacKay's position may object to Williams' line of argument on the grounds that it seems to assume the validity of the very thing MacKay's thesis calls into question. After all, the context in which Williams says that the sentences 'Provided I do not get to hear of this I am certain to do X' and 'Provided I had not got to hear of this I would have been certain to do X' refer to the 'very same thing' implies that the 'thing' that they both refer to is a proposition whose truth value is fixed across time. But if we take it as a given that propositions such as the one alluded to are either true or untrue[393] regardless of the temporal perspective of the sentences that name them, then it should not be surprising if we should find that we are no more free to affect the truth value of propositions concerning our future than we are free to affect the truth value of propositions concerning our past.

But if we do not mean by 'free' something like 'free to affect the truth value of propositions regarding some future state of affairs', it is not clear what the word could mean. So, to assume the irrelevance of temporal perspective with regard to propositional truth value is to beg the question of whether our perceived sense of freedom is illusory—and this is the very question that MacKay set out to address.

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[391] For more on the way all this works out, see the actual Williams/MacKay debate. It may also be helpful to note that MacKay responds in much more detail to the kinds of objection Williams is making in his 1967 Eddington Memorial Lecture (MacKay 1967a). See especially pp. 22-27.

[392] As we mentioned earlier, the argumentation in this exchange is extremely complex. Though the interpretation provided seems to get at the central arguments of both sides, it looks very different from the original presentation, and one can never be entirely sure that the original authors would be happy with their arguments being thus summarised.

[393] NB—by 'untrue' here, we do not necessarily mean 'false' but 'indeterminate'.

MacKay has highlighted the really interesting *logical* aspect of this question by asking what it is right for any given person to *believe.*[394] If it may be the case that the truth value of propositions concerning states of affairs in a person's future is yet to be determined (i.e. if it may be the case that a person is free), then the only propositions which that person can believe with certainty would be those propositions which refer to states of affairs in that person's past. This is so because (as we have just stated) if we are not to beg the question of freedom, we must allow for the possibility of the truth value of propositions not being established irrespective of time.

Along the same lines, if a person has no more power to change the truth value of a given proposition concerning some future state of affairs than that person has to change the truth value of a proposition concerning some past state of affairs (which is just to say that he or she is causally removed from the future state of affairs in question), then that person's situation relative to the truth value of that proposition is the same as it would be if the proposition regarded a state of affairs in that person's past.

This means that if we are to refrain from begging the question of freedom we must make two distinctions with regard to what a person would be right to believe. On the one hand, we must distinguish between what a person is right to believe regarding the truth value of propositions naming past states of affairs and what a person is right to believe regarding the truth value of propositions naming future states of affairs. (For the former the truth value is fixed, and for the latter it is yet-to-be-determined, or indeterminate). On the other hand, we must also distinguish between what a person is right to believe regarding the truth value of propositions naming states of affairs from which that person's present or future actions *are causally removed* and what a person is right to believe regarding the truth value of propositions naming

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[394] In fact, the first conclusion MacKay draws from his discussion in 'On the Logical Indeterminacy of a Free Choice' is that talking about a person's beliefs is usually less misleading than talking about abstract propositional truth. He makes this point in the following terms:

> First, we have found it expedient to shift our emphasis still further than some modern philosophers from discussion of the truth of certain *propositions* in the abstract, to discussion of the validity of the activities of *formulating and believing* these propositions. By doing so we have been able to express in non-contradictory terms what would otherwise have to be expressed in paradox. It seems possible that this shift of emphasis might be rewarding (and far from destructive) in some other metaphysical and theological contexts. (MacKay 1960g) p. 39

states of affairs from which that person's present or future actions *are not causally removed*. (Once again, for the former the truth value is fixed, and for the latter it is yet-to-be-determined, or indeterminate). This means that a person's *causal* relation to the state of affairs named by a proposition is *as important* as his or her *temporal* relation. This is also the basic *logical* claim of 'logical relativity'.

We could obviously fill pages and pages with this sort of reasoning (eventually getting to questions such as how truth value is related to propositions, propositions are related to sentences, sentences are related to our beliefs, and how all of this is related to our brain states), but at some point we would still have to come to the question of where all this was getting us. It is to this question that we now turn.

MacKay claims that we must recognise the fact that the truth value of some propositions is relative to the perspective of the cognitive agent. Since propositions are traditionally thought to be by definition either true or false forever and always, what MacKay is calling for is a redefinition of an essential part of our logical system. But is this call justified? Williams thinks that it is not, though the form of his claim looks more like an assertion and explanation than an argument. As we turn to our analysis of Watkins' criticism, however, we will find an attempt to form universally meaningful propositions that incorporate the particular aspect of relativity to which MacKay is calling our attention. If Watkins' argument succeeds, therefore, he will have dealt with the paradoxical situations about which MacKay is worried within the presupposed apparatus of our orthodox logical system.

2. Watkins

Though we have already referred several times to the debate over MacKay's logical relativity published by the *British Journal for the Philosophy of Science*, one of his critics in that debate deserves special attention. As we mentioned above, J. W. N. Watkins attempts in that debate to add an important 'amendment to MacKay'.[395] The amendment to MacKay that Watkins suggests involves bringing some fairly complex logical tools (most of which were borrowed from Rudolf Carnap)[396] to bear on Anna's work—thus producing some rather complex propositions that are able to account for all the differences between cognitive agents that we have discussed thus

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[395] (Watkins 1971)

[396] Watkins cites Carnap's 'Meaning and Necessity' (Carnap 1956) several times.

far. Though it would take us significantly off course to investigate the intricate details of Watkins' argument, those readers who are interested in these matters will find Watkins' paper richly rewarding.[397] The most interesting aspect of Watkins' criticism for our present purposes, however, is the response that it draws from MacKay.[398]

The main reason that MacKay does not go along with attempts such as that made by Watkins to incorporate all aspects of relativity within one, grand, objective proposition is that the newly formed proposition disguises the difference between the situations of Anna and her subjects.

On the face of it, this reinstitution of uniformity does not sound like such an unhappy prospect. After all, removing the differences between what people would be right to believe and wrong to disbelieve reinforces the appeal made by our epistemic consciences to unequivocally believe *the* true state of affairs. If it is possible to describe the true state of affairs in a way that is binding on all cognitive subjects everywhere, that would seem to be the best way to extend the boundaries of the Kingdom of Truth—reinforcing the epistemic reign that all lovers of wisdom should loyally support. When thinking along these lines, it would seem reasonable to suspect MacKay of mixed epistemic loyalties. After all, if he is not supporting the universal reign of truth, is that not a clear sign that he has thrown in his lot with the rebel relativists—appealing to *differences* among the perspectives of cognitive agents in such a way that inevitably leads to radical subjectivity?

Not at all. In fact, it is the very strictness of MacKay's epistemic conscience that makes him uneasy with such a grand unified proposition. He argues that in trying to explain away the 'inescapable element of *relativity*' which must be recognised in the paradoxical situations to which he has called our attention by 'framing a non-relativistic *conditional* prediction valid for both parties' we would be doing 'less than justice to the rigour and uniqueness of the prediction that (*ex hypothesi) does* exist

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[397] Watkins' paper is not only logically fascinating, but (surprisingly, given the genre) very well written.

[398] We must remember that the only reason we are discussing these critics is to get a better grasp of what MacKay was saying.

with an unconditional claim to the assent of all who are fully detached from the agent'.[399]

If Watkins were to succeed, argues MacKay, we would miss an important truth about the world we live in (which can hardly be called epistemic loyalty). Calling any prediction Anna could make of her subject's behaviour 'P', MacKay elaborates on the importance of retaining the concept of logical relativity in the following way:

> In short, however much we encrust P with conditionals, we cannot find a formulation that *determines in advance* the truth value of P for A. Its truth value is something *for A himself to determine*, by the process we call making up his mind. It remains indeterminate-for-A until he does so.[400]

Though there may be some contexts in which it would be best to explain away the relative aspects of propositions (when dealing with propositions such as 'A wrongly believes Y' for example), there are other contexts in which if we are to understand the world rightly, we do better to *leave the relativity in*. The reason that we must leave the relativity in some propositions and not others is that in some cases the relativity is trivial, while in others it is vital.

With regard to propositions such as 'A wrongly believes Y', A can look back on the situation and say 'Oh yes, I was wrong to have got myself into the situation which disallowed me from believing that proposition, which everyone else was right to believe'. With regard to propositions such as those implied by Anna's predictions, however, the situation is importantly different—for it would have been improper for one of her subjects to believe what a detached observer would have believed and *no one can be faulted for this being the case.* The relativity of statements of this latter sort is the result of the epistemic world being *as it should be*, while the converse is true of the former sort of proposition. So the question becomes not 'Is it possible to state the proposition in a form in which it can be universally accepted by all?' but 'Would we be more epistemically loyal by stating the proposition in a form which can be universally accepted by all, or would that process require us to perniciously lump all cognitive agents in the same epistemological boat?'

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[399] These quotations taken from pp.276-277 of (MacKay 1971a)

[400] (MacKay 1971a) p. 281

As we concluded with regard to Williams' criticism, the side of this debate that we come out on is more than likely a simple feature of which principles we most loyally hold to. Are we more sure that all propositions are either true or untrue irrespective of their beholders, or do we believe that we, as free, cognitive agents bear a special relationship to those propositions concerning the states of affairs of our own futures?

At this point in our discussion, it may be tempting to suggest that if MacKay had only given up on the insistence that the implications of his argument are *logical* as opposed to *causal* or *practical* or something like that, then he would have put the fears of his critics to rest and his readers would have been freed from their problems of divided loyalties. After all, we may be tempted to conclude, if we simply leave the fundamentals of traditional logic alone and say that his point only regards the absolute limits of any perceived threat from mechanistic brain science, then his *practical* goal (that of demonstrating the compatibility of a brain science that assumes physical causal closure and a psychology that presupposes an agent's ability to make free rational and moral choices)[401] is achieved. Unfortunately, however, things are not quite so simple (if 'simple' is a word we can meaningfully use while discussing such a complex argument). As we shall see as we turn our attention to the final critic we will be discussing, we must be very careful with the 'causal' side of MacKay's argument as well.

3. Hasker

Of all the many, many critics of MacKay's doctrine of logical relativity, the one who presses the 'causal' side of his analysis the furthest is William Hasker[402]. In his initial criticism, he accounts for both logical and causal aspects of MacKay's hypothetical situation in such a way as to produce a prediction that is, while perhaps not *absolutely* fine-grained, deterministic enough for any practical purpose.

a) Hasker's Objection

The first novel contribution of Hasker's criticism is that he makes important strides in the effort to remove the destructive effect of Anna's vicious regress. He does this

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[401] (i.e. a psychology that admits the reality of mental and/or spiritual causation)

[402] (Hasker 1978a)

with the suggestion that Anna take into account the effect that any given prediction may have on her subjects.

Now, of course, as we have seen, it would be quite overly optimistic to suggest that she can calculate the effect that her *final* prediction will have on her subjects right from the start. After all, not even she can know what her *final* prediction will be until it is, in fact, calculated. But Hasker's idea is that Anna simply needs to start *somewhere*. If she were to start by calculating what would happen if her subject were to become aware of a prediction (P1) based on all the causal features of her subject's brain *except* the effect of her calculation, then she can refine her prediction, thus producing P2. If she then calculates the effect that P2 would have on her subject, she will get to P3—an even better prediction. The idea is that (eventually) the difference produced by calculating the effects of her prediction one more time will be negligible. Once she gets to this point, Anna can simply present her subject with the prediction (P*x*), knowing that that prediction will not need to be modified in any significant way as a result of any change in the subject's brain state produced by that subject's having become aware of the prediction. Anna will thus have arrived at an *accurate* (if not infinitely precise) prediction of her subject's future brain state, which is sufficient to produce an accurate prediction of that subject's future behaviour.[403]

But, as Hasker recognises, MacKay's argument against Anna's unequivocally true prediction goes deeper than this. After all, even Anna's best planned predictions will have to take her subject's belief-structure into account—so we cannot say that her predictions are true 'whether or not her subjects believe them'. Even if she accurately predicts that her subjects *will* believe her prediction, her prediction may not have been accurate if her subject *had not* believed it—so, in at least this important sense, the validity of Anna's predictions is *up to her subjects*.

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[403] Though these comments on the strategy Anna should take to reduce the effects of this vicious regress are dismissed out of hand by MacKay, they are interesting in that they represent an attempt to take the *causal* paradox seriously. Incidentally, the response MacKay would most likely have made if he saw fit to expend journal space to refute this line of reasoning would have been that, unfortunately for any super-scientist working on Hasker's strategy, neural firing is an essentially stochastic process—so while the differences between Anna's P*x* and P*x+1* may appear statistically negligible, it would be impossible to tell (without doing the actual calculations which necessitate the *actual* prediction received by her subjects) whether or not any difference (however small) would produce a real difference at the system level. For a more detailed explanation of how this works, see chapter 10 (especially pp. 218&219) of his Gifford Lectures (MacKay 1991b).

Here Hasker again has us consider the *causal* (as opposed to *logical*) implications. In particular, he points out that *causally* speaking, belief and unbelief are not *options* for Anna's subjects—for she has predicted, based on her successive calculations, that the brains of her subjects *will* be in such a state that they *will believe* predictions of the type that she has offered them. Just as it is *logically* possible that her subjects would turn into toads upon hearing her predictions rather than have their freedom denied, it is also *logically* possible for them to simply disbelieve them—but neither of these options should be considered in the situation that we have envisioned, because neither of them is *causally* possible.

Hasker regards MacKay's argument as a very helpful (though at the end of the day unsound) attempt to preserve the viability of our subjective sense of freedom. He also, in the conclusion to his critique, offers us his own thoughts concerning how to preserve our concept of freedom in the face of the successes of recent physical brain science. But, as these suggestions are only tangentially related to our task at hand, we will leave it to others to analyse his work—continuing instead to MacKay's response to his criticism.

b) MacKay's Response

The first point MacKay calls our attention to in his response to Hasker is that if we are to forsake the distinction (repeatedly called for by MacKay) between body-talk and mind-talk, then our case is indeed hopeless. On the other hand, we must also recognise the fact that mind-talk (and, indeed, any kind of logic-talk) is *meaningless* unless we admit some sort of underspecified description such that it is at least *logically* possible to be wrong. Words like 'right', 'wrong', 'ignorance', 'belief', and, indeed, even 'freedom' simply *have no meaning* except in the context of an underspecified description.[404]

Once we have committed ourselves to mental/logical language by asking what a subject would be *right* to *believe*, the situation becomes somewhat different from what Hasker may have imagined. MacKay spells this out in the following passage:

> If brain theory could produce a detailed prediction of the state of my cognitive machinery at precisely 10 p.m. tonight (even one involving millions of items of distinct information), the test of whether any part of this has an unconditional claim to my assent is not whether in

[404] as we discussed in Chapter 4

> practice I could understand or be rationally convinced of it, but whether (granted the assumptions of the brain theorist) its rational basis is sound and *would be equally* sound *whether or not* I believed it. To this question whether or not I will or can in fact believe (or disbelieve) it, or understand the rational basis for it or even get to hear of it, is irrelevant. What is at issue is the strength of its *claim* to my assent. Would it be equally accurate whether or not embodied-in-MacKay's-cognitive-system? If (as I argue in the passage cited by Hasker) the answer is 'no', then its claim to my assent is not unconditional. . . There is all the difference in the world between arguing that an agent could not *in practice* comprehend and accept a prediction and arguing (as I do in the main case) that even if he *could* comprehend it, it would be *self-disqualified* from any unconditional claim to his assent.[405]

As we might have come to expect from MacKay, an accurate understanding of the situation necessitates some understanding of the way *complementary descriptions* work. Though, as we saw in our evaluation of Williams' and Watkins' criticisms, the doctrine of complementary descriptions is not a feature of traditional, abstract logic; it is also not a concept based solely on empirical grounds. The doctrine of complementary descriptions is a doctrine that is necessitated by the fact that we, as cognitive agents, must play simultaneous roles in multiple logical sub-systems.[406] While the over all system of abstract truth posed by traditional logic may well be independent of any individual situation, we (of course) are not. So our existential situation *logically necessitates* that if we want to *apply* any aspect of abstract truth to our status as individual cognitive agents (by, for example, asking what it would be right for us to believe) we must take our own *subjective logical situation* (i.e. the intersection of our specific set of essentially third-person logical sub-systems) into account. This is the essential truth of MacKay's doctrine of logical relativity.

The paradoxical situation in MacKay's thought experiment comes about as the result of Anna's subjects having to play simultaneous roles in the physical world of neurophysics (assumed in the thought experiment to be deterministic) and the logical world of agents (which we bring under scrutiny by asking what they would be right to believe). Though these two roles must be played *simultaneously,* it is of vital

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[405] (MacKay 1978f) pp. 142&143

[406] Given the fact that we are *embodied* cognitive agents, we must recognise that even in participating in the most abstract of logical exercises, we simultaneously participate in the more concrete logical system of physical 'cause and effect'. When contemplating pure mathematics, for example, we must burn calories—so while participating in the abstract logical world of timeless truth and falsity, we simultaneously participate in the concrete logical world of physical cause and effect.

importance that we do not *identify* them with each other. Though MacKay makes this point in many places, one of the clearest is also in his response to Hasker. He says:

> What would actually follow if physical determinism were true is only that *for the purposes of a neurophysiological Predictor*, calculating in physical categories, the principles of my logical reasoning are superfluous. But by the same token, for my purposes as a rational agent reasoning in moral categories, the complementary data of the neurophysiologist are equally 'superfluous'. Indeed, as we have seen, they are not even *data* for me until after the event. It is a logical error (though a common one) to imagine that predictive adequacy at one level of analysis proves the factors recognisable at another level to be 'inoperative'.[407]

It is for these reasons—not simply causal, nor simply logical—that MacKay is justified in calling for us to recognise this essential aspect of relativity concerning what we would be right to believe. As he puts it, 'It is a groundless logical illusion (analogous to the pre-Einstein conception of absolute space and time) to conceive of the viewpoint of a detached observer as having epistemological priority over that of the conscious agent himself'.[408]

c) Hasker's Reply[409]

Hasker's reply to MacKay's response, while perhaps not quite as interesting as his original criticisms, brings out one final point that we would do well to consider.

Hasker first thanks MacKay for his response, claiming that it has enabled him to strengthen his argument against logical relativity significantly. As it turns out, however, this 'strengthened' argument does not bear much similarity to the original.

Hasker begins his strengthened argument by calling attention to MacKay's definition of freedom. Calling this definition 'MacKay's Criterion', Hasker tells us that 'According to MacKay, I am a free and rational agent if and only if there is no possibility of a detailed prediction of my behaviour which I am *rationally obliged to*

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[407] (MacKay 1978f) p. 146

[408] (MacKay 1978f) p. 147

[409] (Hasker 1978b)

accept.'[410] Once he has introduced this criterion, Hasker's argument is fairly simple. He says:

> According to MacKay's Criterion, I am free and responsible in my actions unless it is possible for there to be a prediction of my actions which I am rationally obligated to accept—which he takes to mean that the prediction must be sound whether or not I believe it. But (given the mechanistic hypothesis) it turns out that the idea of a prediction meeting this requirement is self-contradictory—so the statement that no such prediction is possible is a tautology. Now it is well known that nothing follows from a tautology except another tautology. But the claim that I am a free and responsible agent is by no means a tautology. It follows that MacKay's Criterion is wrong.[411]

Hasker's skeletal model of the logical form of this part of MacKay's argument would seem more or less accurate. Whether or not this could properly be called a tautology, on the other hand, is quite another question. And we must also remember that this 'strengthened' argument deals with only part of the overall argument for logical relativism—for it (as opposed to his original objection) deals only with the logical (and not the causal) side of the story. Perhaps the best way to illustrate this point (and take stock of our discussion of these important misunderstandings) would be to put together a longer summary of MacKay's argument involving logical relativity.

C. Taking Stock

The first step we must take in summarising MacKay's argument is to recall the argument that MacKay sets out to dispute. That argument, as we saw above, goes something like this (this argument will be largely quoted from the fourth paragraph of (MacKay 1960g)):

> P1: My physical brain-processes are wholly physically determined.
>
> P2: My decisions can be inferred uniquely from my brain processes.
>
> C1: A fully-informed observer of my brain-processes could know the outcome of my choices with certainty before I made them.
>
> C2 (from C1): My impression of freedom in making these choices is therefore an illusion, due to mere ignorance of the true state of affairs.

While most challenges to this argument challenge at least one of the two premises, MacKay's argument is unique in asserting that even if we were to grant the premises,

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[410] (Hasker 1978) p. 149

[411] (Hasker 1978) p. 151

the only form of C1 that follows does not support C2. The reason that a valid version of C1 does not support C2 is that while C1 only holds for an observer who is causally detached from the subject of those predictions, C2 concerns what *the subject* would be right to believe. This, of course, goes straight to the heart of MacKay's provocative logical relativity thesis—that in order to correctly believe what is objectively true, what one cognitive agent must believe will be different from what another cognitive agent (occupying a radically different perspective on the situation in question) must believe. So, at least in its original form, the main force of MacKay's argument stands or falls with his doctrine of logical relativity.

Williams has argued that MacKay's logical relativity thesis is not justified on the basis of logic alone. By this he means that Anna's subjects are not precluded from believing Anna's predictions because *the predictions themselves* would entail a logical contradiction if believed by the subjects. Though it may appear contradictory for an agent to believe a statement of the form 'As long as I do not hear of this prediction, it will be absolutely certain', this appearance of contradiction is removed if we simply change the *form* of this statement to the past tense—so that the subject believes 'Provided I had not heard of this prediction, it would have been absolutely certain'.

But even aside from the question of whether it is possible to change the form of a prediction to the past tense without changing its content, this 'purely logical' rationale challenged by Williams is not necessarily MacKay's central motivation in calling for us to recognise the principle of logical relativity. MacKay's argument is not that Anna's subjects' belief of her predictions would entail a logical contradiction, but that their belief (or non-belief) would alter the truth value of her predictions. There is a sense in which this argument is causal (as opposed to Williams' definition of 'logical'), but there is also a sense in which it is logical (as opposed to Hasker's initial assumptions with regard to whether it is *possible* for Anna's subjects to either believe or disbelieve her predictions). On the one hand, it is causal—because if Anna's subjects believe her predictions, they undercut the *reasons* Anna had for making the prediction she did. On the other hand, however, MacKay's argument is also logical—because it concerns what Anna's subjects *would be right to believe*. The whole reason Anna's situation is so paradoxical is that it weaves lines of physical and mental causation so tightly together that it is difficult to avoid blurring the necessary distinctions.

Though the questions we ask of the situation require us to jump repeatedly from one form of causation to the other, it is vitally important that we keep the *kinds* of causation involved distinct. Logical relativity features heavily in this situation because the different characters involved (i.e. Anna and her subjects) are situated at such radically different intersections of physical and mental causal stories. This being the case, regardless of whether or not it is *possible* to incorporate all the relevant conditionals into a grand unified proposition which is true for observers and subjects alike, MacKay claims that the most accurate way to understand the situation is to name much simpler propositions, which have different truth values depending on the perspective from which they are comprehended. If this process also requires a slight modification in the way we have thought about the definition of 'proposition' in the past—well, that is what progress is supposed to do.

But even if we remain uncommitted regarding the Einstein-like revolution MacKay envisioned in logic (with regard to the absolute univocality of propositions), there are still some very important lessons to be learned from this debate. For one thing, this debate helps to emphasise what an exceedingly complex struggle we must engage in if we are to apply our learning about the brain to our knowledge about the mind. In particular, this debate helps us to see that the only hope we have of properly understanding the complex relationship between the physical causal story of brain events and the freedom of physically embodied subjects lies in keeping straight the kinds of things that can properly be said of each kind of causal system. In short, this is just to say that we must be strict about our grammar.

Though we have already spent a good deal of time discussing the different grammars of mental and physical descriptions, in discussing MacKay's doctrine of logical relativity we have also been elaborating on these different grammars as we have struggled to understand the complex situation that Anna and her subjects worked themselves into.

Chapter 6: Comprehensive Realism and Individual Eschatology

In the first section of our study (chapters 1 & 2), we briefly canvassed some of the historical ideas that have proven to be most influential on the metaphysical anthropology of the contemporary evangelical Protestant Church. We also discussed the rise of post-Kantian psychology and the attempt of identity theorists to build upon the mistakes of the early behaviourists. But we also described a few of the most famous reactions to identity theory, concluding with the observation that a consensus among philosophers interested in the mind/body relationship remains elusive.

On the other hand, however, we concluded chapter 1 with the hopeful suggestion that a study of Donald M. MacKay's thinking may help the contemporary evangelical Protestant Church to re-think its position on the mind/body relationship in the light of the past several centuries of general revelation. The purpose of chapters 3-5 is to present a systematic overview of Donald M. MacKay's position on this issue. To that end, we first introduced his doctrine of complementary descriptions (chapter 3) and then explained how he related that doctrine to the mind/body problem in general (chapter 4) and the confusion surrounding the idea of human freedom in particular (chapter 5).

What we have not spoken of thus far, however, is MacKay's position with regard to the closely related question of individual eschatology. In particular, we have yet to answer the question of how a mind/body position that takes our embodiment as seriously as MacKay's does can make sense of the basic Christian notion of eternal life. It is to this question that we will turn our attention in this chapter. Our method in this chapter, however, will have to be somewhat different from the method we employed in previous chapters. The reason we must alter our method is twofold. On the one hand, MacKay wrote considerably less on this issue than he did on the issues discussed in chapters 3-5. In fact, the only complete work MacKay devoted to our present topic also happens to be the final complete work of his career—his final Gifford Lecture. On the other hand, individual eschatology, as opposed to his logical notion of complementary descriptions or the mind/body problem in general or even the free will issue, is a topic upon which our preconceived ideas as to the desiderata of a complete theory are considerably less distinct.

Our course of action for this chapter, therefore, will be to open our discussion with a brief assessment of some of the theological issues raised by MacKay's contemporaries that are of most importance to our present topic. We will then be in a position to better understand the tensions within this aspect of MacKay's own theory as well as the overall merits of his mature position.

I. The Struggle in MacKay Era Theology

Before entering our discussion of MacKay's ideas concerning the possibility of eternal life, it is important for us to realise that this issue, like so many others we have been discussing, has been the source of no small controversy. This controversy took on especial gusto in the mid-1900's and continues today. At the base of this controversy is the question of how (and to what extent) Christian teaching on eternal life, which stresses the resurrection of the body, is to be distinguished from the Platonic teaching, which stresses the soul's survival of bodily death.

There are really two questions at issue here—one of which we could ask of biblical theologians and the other of which would be of more interest to philosophical theologians. The question we would want to ask biblical theologians is, 'In what way (if at all) is biblical teaching on eternal life importantly different from Platonic doctrine?' On the other hand, the question we would want to ask of philosophical theologians would be 'Do either (or both) of these doctrines make sense? (i.e. do they bear up under close philosophical scrutiny?) Up until the mid twentieth century, neither of these questions was particularly controversial. Most theologians thought that biblical and Platonic notions of eternal life were importantly similar and that either of these quite similar notions would bear up under close philosophical scrutiny. What happened in MacKay's lifetime, however, is that both of these more or less standard answers came under intense criticism. John Baillie anticipated this criticism in 1933 when, in his discussion of 'The Nature of Eternal Life' he said:

> Many questions may be asked but none can be answered. There is, however, one question of this kind that must not go quite unmentioned—the question whether the life everlasting is an *embodied* life. We have already studied the waverings of the thought of the past concerning this issue. On the one hand it has been felt that since the life we hope for is a life which will altogether transcend the present material and temporal and spatial order, material bodies like our present ones would be wholly unsuited to the conduct of it. On the other hand there has been the difficulty of conceiving how a soul can have any effective life, or can indeed exist at all, without the co-

> operation of its bodily organism. The Greeks were more acutely aware of the former difficulty, the Jews of the latter . . . If we press the question whether it is the body transformed or another body which replaces it, we receive no clear or united answer [from Scripture]. Not even St. Paul, who has set out his judgement at considerable length, can be pinned down to a certain pronouncement on this point. And perhaps this is no surprise. For which of us has ever pinned down to a certain pronouncement on the parallel question at what point a stocking that has been darned ceases to be the same stocking and becomes a new one?[412]

A. The Controversy in Biblical Theology

Though Baillie implies in this passage that the biblical and Greek understandings of the nature of eternal life were different, it was not until twenty years later that the common assumption of their basic similarity was directly challenged. This explicit challenge was offered by Oscar Cullmann in his short but provocative booklet titled 'Immortality of the Soul or Resurrection of the Dead? the witness of the New Testament'. In this booklet, Cullmann leaves no doubt as to his position. He answers our question of whether biblical and Greek teachings concerning eternal life are importantly similar with a resounding 'no!'. He says, 'The fact that later Christianity effected a link between the two beliefs and that today the ordinary Christian simply confuses them has not persuaded me to be silent about what I, in common with most exegetes, regard as true . . . 1 Corinthians 15 has been sacrificed for the *Phaedo*.'[413]

Cullmann's work is most famous for his eloquent comparison of the deaths of Socrates and Jesus, but his argument is not limited to that comparison. Although the stark differences between Greek and Christian notions of a noble death are important, the *reason* these differences are so important is that they highlight a basic difference in understanding regarding the nature of death. These differences are important to our present study because they particularly concern the prospects of a better life beyond the grave.

Cullmann argues that whereas Plato taught that death is nothing more than the liberation of the soul from its bondage to the body, the Bible teaches the exact opposite. The Bible, according to Cullmann, teaches that death is not our liberator,

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[412] (Baillie 1933) p. 302-303

[413] (Cullmann 1958) pp. 7-8

but our jailor. According to Cullmann's interpretation of the Bible, our liberation will not be from our body, but from death. He argues that the Platonic hope (that, although it is somewhat natural to fear death, the truth is that our souls have been immortal all along) is radically different from the hope offered by Christianity. Cullmann emphasises that our Christian hope lies exclusively in our union with Christ in the revolutionary event of his bodily resurrection. He makes this point in the following way:

> If one recognizes that death and eternal life in the New Testament are always bound up with the Christ-event, then it becomes clear that for the first Christians the soul is not intrinsically immortal, but rather became so only through the resurrection of Jesus Christ, and through faith in Him. It also becomes clear that death is not intrinsically the friend, but rather that its 'sting', its power, is taken away only through the victory of Jesus over it in His death. And lastly, it becomes clear that the resurrection already accomplished is not the state of fulfilment, for that remains in the future until the body is also resurrected, which will not occur until 'the last day'.[414]

This point of Cullmann's has very deep implications, as evinced by the multifaceted debate his little booklet started. For our purposes, however, we should highlight only one very important principle: Our hope for eternal life does not lie exclusively in the finished work of God's creation. Our hope also depends also upon the ongoing[415] work of redemption. To put this point a slightly different way, we should note that the Christian does not simply trust in the immortal nature of his or her soul for assurance of life beyond the grave (as does the Platonist). The Christian places all hope for eternal life solely in the person and work of Jesus Christ.

Although Cullmann's work has attracted more reaction than we could possibly hope to deal with here, it may be helpful to note that his admirers and critics alike have agreed upon this central principle we are highlighting. C. K. Barrett, for example, has been one of Cullman's sharpest critics. In his 1964 Drew Lecture on Immortality, Barrett argues that while the Greeks may have tended to speak of 'immortal souls' where we would expect the Jews to insert language of 'bodily resurrection', the relationship between the two systems of doctrine is much tighter

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[414] (Cullmann 1958) p. 17

[415] By 'ongoing' here, no challenge is intended to the doctrine of the perfection of Christ's work. The 'ongoing' aspect of redemption does not regard its *accomplishment*, but its *application* (cf. (Murray 1979)).

than Cullmann and others have alleged. Even as he criticises Cullman's provocative thesis, however, he agrees that this hope is, for the Christian, grounded not in his or her own nature, but only in the resurrection of Jesus Christ. He puts this point in the following way:

> It [the Christian hope] is not grounded in himself—his intellectual process, his virtues, or his religious observances—but in God alone. Yet God himself has assured his creatures of the future, first by the resurrection of Jesus Christ, and secondly by implanting in man, in virtue not of his creation but of his redemption, the seed of immortality.[416]

Debate over the relationship between Greek immortality and the biblical concept of bodily resurrection continues even today. Even if Cullmann may have overstated his case, however, in the years since that important work, it has become more and more common to note the fact that for the Christian, death is not a friend, but an enemy. The Christian hope is that life in Christ is no longer bound to 'the law of sin and death'.[417] The Good News is that humanity's enemy has been overcome by Christ's perfect life, horrible death and glorious resurrection.

Further, the frank admission of this radical distinction between Greek and Christian thought has led to other biblical theological breakthroughs in the understanding of the Christian hope as well. In particular, the greater emphasis put on the person and work of Christ in relation to our hope for eternal life has tended to make our visions of life beyond the grave much more concrete. After all, Jesus did not simply defeat death by allowing his physical body to be killed while continuing to live in some highly abstract form. His victory over death came in the form of his *bodily* resurrection. This means that if our hope for eternal life is the hope that he will make us like himself on that last day, our participation in his victory (i.e. our eternal life) likewise begins with our *bodily* resurrection. N.T. Wright has recently taken up just this line of thinking in his refutation of what he calls the 'pie-in-the-sky-when-you-die' attitude of contemporary Christians with regard to the doctrine of eternal life. He says:

> Christians regularly speak of their hope in terms of 'going to heaven when they die.' One hears it in hymns; one finds it in prayers . . . One hears it in sermons, both explicitly and implicitly. The point seems to

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[416] (Barrett 1979) p. 87

[417] Romans 8:2b

> be that there is something called 'eternity', which is regularly spoken of as though it has only the loosest of connections with space and time, and one day we are going to step into this eternal existence, whether in the form of heaven or of hell, which has almost nothing to do with this earth and this present history. I suggest that this view, widely held though it is, is far less warranted by the New Testament than would normally be supposed; can be at the very least very seriously misleading, and at worst quite positively damaging to a healthy Christian faith; and should be challenged by a more biblical picture altogether. I suggest instead that what we find in the New Testament, and what I commend, is the Christian hope for a new, or renewed, heaven and a new, or renewed earth, with these two integrated together.[418]

With more specific reference to the points raised by Cullmann and debated by biblical theologians throughout MacKay's lifetime, Wright demonstrates both a respectful reserve regarding the complexity of the controversy and a solid commitment to the central lesson of Cullmann's work. In his section titled 'Resurrection and Immortality' he says:

> Resurrection and immortality are not simply to be played off against one another, as used to be done. Things are not that easy . . . There is, however, a well-known view of immortality which is not found in the early Jewish world and the New Testament (with the possible exception of Philo), namely, the Platonic view of the body as a shell which the immortal soul happens to inhabit for a while.[419]

Though Wright's research in this area (and that of his colleagues) is both fascinating and related to our study, a full study of these recent contributions would take us significantly beyond our present task. We mention Wright's work only as an example of the kind of thinking that eventually grew out of the increased interest in eternal life expressed by Cullman and his colleagues.

But biblical theologians were not the only scholars working on the Christian notion of eternal life throughout MacKay's lifetime. As we suggested earlier, philosophical theologians also took especial interest in this issue. From the early 1950's, for example, Anglo/American philosophers began to question the intelligibility of disembodied existence, a concept upon which the Platonic hope explicitly rests. The natural question this movement presented to Christian philosophical theologians,

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[418] (Wright 2001) p. 33

[419] (Wright 2001) p. 45

therefore, was whether the Christian doctrine of eternal life could survive the demise of its Greek counterpart.

B. Philosophical Theology

As John Baillie pointed out in the selection we quoted at the beginning of this section, questions concerning the extent to which the eternal life of which the Bible speaks is *embodied* life have long posed a difficult theological problem. During MacKay's lifetime, however, these questions came to be addressed with increasing interest. Since Gilbert Ryle effectively demonstrated the philosophical heresy of Descartes' 'Doctrine of the Ghost in the Machine' in 1949,[420] the possibility of surviving bodily death required a post-Cartesian expression. As suggested earlier, the most important questions that were being asked by philosophical theologians during MacKay's career for our purposes were: 1) 'Does the very idea of disembodied existence bear up under philosophical scrutiny?' and 2) 'Can a Christian notion of resurrection that *does* bear up under philosophical scrutiny be formulated in such a way as to rescue our hope for eternal life?'

1. Disembodied Existence?

The most significant philosophical objection to the idea of disembodied existence can be generally regarded as Wittgensteinian. A classic example of the kind of objection that chiefly concerns us here can be found in Peter Geach's *Mental Acts*, section 25, titled 'Could Sensuous Experiences Occur Apart from an Organism?'[421]

Geach begins this section by acknowledging the fact that most people would consider it a least *logically* possible to believe in disembodied experience. After all, accounts of people who seem to have died for relatively short periods of time only to 'come back' with stories of leaving their bodies at the site of an automobile crash or on a hospital bed, et cetera, have been common for quite some time. Though we may not always *believe* such stories, it would seem severe to dismiss them as *logically* impossible. After all, if it is even possible to imagine something being true, then it is (by definition) logically possible. At the very least, it must be acknowledged that this position has historical opinion on its side, for people throughout history have

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[420] (Ryle 1949)

[421] (Geach 1957) (pp. 11-117) NB: All page numbers for this work relate to the 1971 edition.

considered it possible (logically possible, at least) to accept testimonies concerning disembodied sensuous experience—rising out of one's body, seeing the scene of one's death from a distance, and so on. In general, it has been believed that such accounts of disembodied sensuous experience provide logically comprehensible descriptions of what someone believes to be the case. Whether these accounts are belief-worthy, therefore, has been generally considered a question for *a posteriori* investigation rather than *a priori* analysis.

But Geach asks us to look a bit closer at what it is that we think these familiar accounts describe. Are we really imagining disembodied sensuous experience, or are we merely imagining that our experience is mediated by a subtle body—a ghost, if you will—that is capable of separation from the gross body that we inhabit throughout life? If it really is such a subtle body that we are imagining, then we must admit that we are not in fact imagining *truly* disembodied sensory experience at all. In that case we would simply have smoothed the metaphorical bump in the rug only to have it pop up in another place; for we would have successfully imagined sensory experience apart from the gross body only at the expense of having initiated a parallel series of questions regarding the possibility of imagining sensory experience apart from the subtle body. In short, we will have solved the mind/gross-body problem only at the expense of having initiated a mind/subtle-body problem. Furthermore, it could be argued that the subtle problem is even more difficult than the gross problem due to the fact that our belief that we are, in fact, subtle bodies is encouraged by absolutely no other reason than that it helps us get around the mind/gross-body problem.

But what happens if we reject this subtle alternative? Can we not merely insist that it is a genuinely disembodied consciousness that we are imagining as the source of sensory experience after separation from the dead gross body? If we are tempted by this alternative, argues Geach, we need to ask ourselves what we *mean* when we say that this disembodied consciousness is the subject of *sensation*. What, after all, *is* sensation? To be sure, it is quite a familiar concept—so familiar, in fact, that we are very rarely inclined to attempt an explanation. And when we do attempt such an explanation, it is quite tempting to explain the concept wrongly, as Geach exemplifies in the following way:

> 'The verb "to see" has its meaning for me because I *do* see—I have that experience!' Nonsense. As well suppose that I can come to know what a minus quantity is by setting out to lose weight.[422]

Fortunately, however, Geach does not leave us there. He continues with an explanation:

> What shows a man to have the concept of *seeing* is not merely that he sees, but that he can take an intelligent part in our everyday use of the word 'seeing'. Our concept of sight has its life only in connection with a whole set of other concepts, some of them relating to the physical characteristics of visible objects, others relating to the behaviour of people who see things.[423]

The point that Geach is driving home here is that conceptual understanding is not grounded on the *private* experience of silent reflection and extended (albeit rather tenuously) to include the possibility of other minds. On the contrary, 'I learn to use the word "see" of others and of myself simultaneously'.[424] Furthermore, Geach argues that we understand all concepts only in relation to other concepts. He makes this point in the following way:

> as with a spider's web, some connexions may be broken with impunity, but if you break enough the whole web collapses—the concept becomes unusable. Just such a collapse happens, I believe, when we try to think of seeing, hearing, pain, emotion, etc., going on independently of a body.[425]

But given the fact that we have all heard accounts of people who genuinely believe themselves to have experienced a whole series of disembodied sensations, how can it be that disembodied sensation is not only impossible in fact, but also *logically* impossible?[426] Even if survivors of near-death experiences are mistaken in what in

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[422] (Geach 1957) p. 112

[423] (Geach 1957) p. 112

[424] (Geach 1957) p. 113

[425] (Geach 1957) p. 113

[426] If this conclusion seems a bit rash, perhaps it would help to see how he revised this argument in another book, published twelve years later. In 1969 he said:

> . . . I am not putting forward a theory, but just reminding you of very familiar features in the everyday use of the verb 'to see' and related expressions; our ordinary talk about seeing would cease to be intelligible if there were cut out of it such expressions as 'I can't see, it's too far off', 'I caught his eye', 'Don't look round', etc. Do not let the bogy of behaviourism scare you off observing these features; I am not asking you to believe that 'to see' is itself a word for a kind of behaviour. But the concept of seeing can be maintained only because it has threads of connexion with these other non-psychological concepts; break enough threads, and the concept of seeing collapses. (Geach 1969) p. 21

fact took place, is not the mere telling of the familiar near-death-experience story evidence that such a situation is at least imaginable (and thus logically possible)? The implication of Geach's argument is that such stories are not only *factually mistaken*, but also *conceptually misunderstood*—both by the teller and the listener who thinks such a story logically possible.

Perhaps it would be wise to unpack this position with reference to a clearer example. It is generally agreed to be impossible to imagine a square circle. But we must also acknowledge that it *is* possible to be mistaken about what it is possible to imagine. Someone may, for example, *think* that it is possible to imagine a square circle (though that person would, of course, be wrong). It may even possible to think that one has successfully imagined a square circle (though such a person would, again, be wrong).

Perhaps we should think this out in a little more detail. Let us suppose that a very bored mathematician sets up an equation on a properly functioning computer so that the computer displays, one at a time, every logically possible graphic depiction of circularity. For a few hundred years, the computer produces nothing but billions and billions of circles, each almost imperceptibly different from the one preceding it. But then one day, a striking discovery is made. The graphic displays being generated by the computer can be seen to have four, distinct, equilateral sides! All the mathematicians of the age grapple with the functions producing these four-sided figures and agree that they are, in fact, the functions of circles, but are also, at the same time, functions for squares! A series of square circles has been discovered!

It must be admitted that few who are familiar with the concepts of 'square' and 'circle' would be tempted by such a story to think it really possible to imagine such a story being true. The concepts of 'square' and 'circle' are mutually exclusive. What should be obvious from this example, however, is that it *is* possible to be mistaken about what it is possible to imagine. After all, the little story above was nothing more than an exceedingly obvious version of just such a mistake. More to the point, the only way to be fooled into thinking that one has imagined a square circle is to either forget that one is meant to be imagining circles and imagine a square or to get so used to imagining circles that one forgets how the concept of 'square' is meant to be applied.

According to Geach, it is this same principle that is at work in the case of the near-death experience. Since the concept of sensation necessarily involves interaction between physical bodies, the only way to be confused into thinking that one has successfully imagined disembodied sensation is to either forget that it is *sensation* that one is meant to be imagining, or to forget that the alleged experience is taking place *in the absence* of a body.

Geach goes on to argue that while such a denial of the possibility of disembodied sensation may *seem* to rule out all possibility of disembodied existence, this is not necessarily the case. He points to Thomas Aquinas as an example of a great philosopher who denied the possibility of disembodied sensation, yet affirmed the possibility of intelligent existence (even suffering) without that experience being grounded anywhere in the physical world. While he only mentions Aquinas in *Mental Acts* (almost in passing) to show that recognising the impossibility of disembodied sensuous experience does not automatically make one a materialist, he develops the implications of Aquinas' thinking a bit more in *God and the Soul*. In this later development, he asks the important question of whether it is possible for an individual person to survive her own death by reverting to a disembodied existence. He says:

> In our human life thinking and choosing are intricately bound up with a play of sensations and mental images and emotions; if after a lifetime of thinking and choosing in this human way there is left only a disembodied mind whose thought is wholly non-sensuous and whose rational choices are unaccompanied by any human feelings—can we say there remains the same person? Surely not: such a soul is not the person who died but a mere remnant of him. And this is just what Aquinas says (in his commentary on 1 Corinthians 15): *anima mea non est ego*, my soul is not I; and if only souls are saved, *I* am not saved, nor is any man. If some time after Peter Geach's death there is again a man identifiable as Peter Geach, then Peter Geach again, or still, lives: otherwise not.[427]

The point of all this is that while it may make sense to say that we *exist* even after death, it does not make sense to say that we have any sort of personal *life* without any sort of personal *embodiment.* This form of reasoning lead Geach, in *God and the*

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[427] (Geach 1969) p. 22

Soul, to conclude that 'unless a man comes to life again by resurrection, he does not live again after death.'[428]

And so we see that just as Cullmann effectively challenged the traditional answer to the question of whether the Christian and Greek conceptions of eternal life are importantly different, Geach challenged the traditional answer to the question of whether the Christian and Greek conceptions of eternal life were equally intelligible. Geach argued that any hope for life after death that did not include bodily resurrection (such as the Platonic hope) distorts our concepts of personal survival beyond recognition. He suggests that the Christian hope for bodily resurrection is the only truly intelligible form of hope for life after bodily death.

Unfortunately, however, his argument for the intelligibility of the Christian hope depends almost exclusively on his demonstration that it does not fall to the same arguments that destroyed the Platonic hope. The question, therefore, remains as to whether the Christian hope of bodily resurrection might fall prey to other philosophical arguments not necessarily related to the idea of disembodied existence. D. Z. Phillips, for example, follows Geach step by step in his argument against the dualistic dream of surviving death by severing all connection with the dying body, but then extends the same line of argument against the traditional Christian hope for life beyond the grave through bodily resurrection.

In his *Death and Immortality*, published just one year after Geach's *God and the Soul*, Phillips argues that just as sensation does not make sense in the absence of a body, so death does not make sense if its subject is understood to live afterwards. He says that 'If one understands what is meant by "survival" and what is meant by "death", then one is at a loss to know what it means to talk of surviving death.'[429] Phillips argues that if we were to meet a man on the street who claimed to be raised from the dead, it would be difficult to make sense of what was being claimed. If the man was claiming that he had been raised in a 'new body', we could not say that he was the one who had experienced death. Such a man would merely be claiming to have somehow been born in a grave. On the other hand, if the man were to say that his now-living body was the same body that had been buried by his relatives two days after his death, which took place a year ago, we would have no reason to

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[428] (Geach 1969) p. 28

[429] (Phillips 1970) p. 15

believe that he had ever really died. If we understand what it means to die, we cannot say that a person dies and then lives again. That is simply not how the concept of death works.

In light of this criticism of the traditional Christian notion of eternal life, Phillips argues that 'questions about the immortality of the soul are seen not to be questions concerning the extent of a man's life, and in particular concerning whether that life can extend beyond the grave, but questions concerning the kind of life a man is living.'[430] Thus he re-defines the biblical concept of eternal life as the renunciation of all concern for the temporal in favour of the eternal, explaining:

> This renunciation is what the believer means by dying to the self. He ceases to see himself as the centre of his world. Death's lesson for the believer is to force him to recognise what all his natural instincts want to resist, namely, that he has no claims on the way things go. Most of all, he is forced to realise that his own life is not a necessity.[431]

And so we see that while Geach interpreted his argument against the idea of disembodied sensory experience as evidence that the Christian hope in the resurrection of the body was the only philosophically sound hope for life after death, others employed the same kind of thinking in an appeal to move beyond such 'selfish' hopes as the hope for future personal existence.

But instead of re-thinking the concept of eternal life in light of such biblical concepts as 'dying to self', why not take the radical event of Jesus' bodily resurrection as an invitation to re-think our concept of death? After all, is this not what St. Paul was getting at when he rejoices in the gospel, saying 'Death has been swallowed up in victory. Where, O death, is your victory? Where, O death, is your sting?'[432] Contrary to what Phillips seems to be suggesting, when the Bible talks about dying to self, it links such concepts not with the annihilation of personal existence, but with the hope of being made 'alive to God in Jesus Christ'.[433]

Even so, however, Phillips is correct in saying that any hope for life after death would necessitate a re-thinking of our concept of death. This is the kind of re-thinking to which Cullmann implicitly refers in calling Jesus' bodily resurrection

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[430] (Phillips 1970) p. 49

[431] (Phillips 1970) pp. 52-53

[432] 1 Corinthians 15:54-55

[433] Cf. Romans 6:6-11

'revolutionary'. Unfortunately, however, our work is not complete when we simply state that a revolution in our idea of death has taken place. We must also show that such a revolution is intelligible. This task was also taken up in earnest by several of MacKay's contemporaries.

2. Bodily Resurrection?

All of the most explicit cases of bodily resurrection reported in the Christian Scriptures involve the resurrection of persons only recently deceased.[434] In the case of Jesus Christ, far and away the most important for our purposes, he had only been dead for three days. While these events may be difficult for modern minds to comprehend, they present a much simpler case than does our Christian hope in a future resurrection of all believers (even those who have been dead for thousands of years). How would such a future resurrection go? One of the first philosophical theologians of MacKay's lifetime to attempt a precise answer to this question was John Hick. Though his explanation of the resurrection was part of a much bigger project, we will restrict our discussion to that portion of his work that relates to our present topic.

a) Hick and the Resurrection World

Early in John Hick's career, he was concerned with the demands of thinkers influenced by logical positivism. These thinkers argued that since a statement could only be truly meaningful if it was verifiable in principle, and Christianity is not verifiable, Christianity is not truly meaningful. Hick answered arguments of this kind by saying that Christianity is, indeed, verifiable—just not for the living. He said that because we will all know at the resurrection whether Christianity is true or not, the meaningfulness of Christianity is well established even if we accept the overly strict standards of verificationism. For his argument to work, however, he had to

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[434] In the case of Samuel being 'awakened' for Saul by the Witch of Endor (1 Samuel 28:7ff) the scriptural account seems to suggest a temporary manifestation rather than bodily resurrection. The same should be said of the appearance of Moses on the mount of transfiguration (Matthew 17:3 and Mark 9:4). While in these cases the deceased are visible—suggesting at least *some* form of bodily existence, the dissimilarities with clear cases of bodily resurrection are so great that these cases would be better treated in another category. Another problematic case is presented by the dead 'holy people' who were restored to life when Jesus died (Matthew 27:52&53). While we cannot say for certain that these people were only recently deceased, the account of this phenomenon is sufficiently obscure to justify reluctance with regard to treating it as a paradigm case.

show that the Christian idea of bodily resurrection is at least conceivable. This, of course, is where Hick's work comes to relate to our present topic.

In his 1960 paper 'Theology and Verification', Hick explains how a modern mind might think of bodily resurrection.[435] He begins his explanation as follows:

> Let me sketch a very odd possibility (concerning which, however, I wish to emphasise not so much its oddness as its possibility!), and then see how far it can be stretched in the direction of the notion of the resurrection body. In the process of stretching it will become even more odd than it was before; but my aim will be to show that, however odd, it remains within the bounds of the logically possible.[436]

The possibility he begins his explanation by sketching involves a situation very similar to Star Trek style teleportation. A person instantly vanishes in one place while an exact replica of that person simultaneously appears in another place. The replication turns out to be so exact that all memories, fingerprints, personality traits and even beliefs are identical with the person who disappeared. Though such a situation is highly unlikely, Hick argues that the way we would undoubtedly interpret such an event would be to say that the person who disappeared had not, in fact, ceased to exist simultaneously with the appearance of the replica, but that the person who had disappeared and the spatially distant person who had appeared are one and the same person. 'We should have no reasonable alternative', Hick argues, 'but to extend our usage of "the same person" to cover the strange new case'.[437]

Next, Hick stretches this example in the direction he thinks we need to go in order to rightly understand the bodily resurrection. He asks us to imagine that instead of instantly disappearing, a person suddenly dies; and as that person dies, the exact replica once again appears in another place. Here things are somewhat different in that we have two bodies that would appear identical except for the fact that one is dead and the other is alive. The living person sincerely believes that it is the same person that died and has all the requisite mental and physical states—except, of course for being dead and maintaining spatial continuity with the original body (a role adequately fulfilled by the corpse). Hick says of this case that

> Once again the factors inclining us to say that the one who died and the one who appeared are the same person would outweigh the factors

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[435] (Hick 1960) especially pp. 20-25

[436] (Hick 1960) pp. 21-22

[437] (Hick 1960) p. 22

> inclining us to say that they are different people. Once again we should have to extend our usage of 'the same person' to cover this new case.[438]

Hick then argues that the only way in which we would need to modify this case to understand the concept of bodily resurrection would be to say that instead of the 'new' person appearing at another place in this world upon death, that person appears in what he calls 'the resurrection world'.

Whether or not this argument for the intelligibility of bodily resurrection is really intelligible (or even biblical, for that matter) may be the subject of reasonable dispute, but the historical significance of this argument among philosophical theologians interested in the mind/body problem and personal eschatology cannot be denied. It is worth noting, however, that Hick himself believed that there had to be much more to the story than this very basic account. In reply to some of his critics thirty-one years later, for example, he said:

> In spelling out the replica concept I was trying to show that the Christian doctrine of resurrection is not ruled out by the Rylean-type philosophy of mind and the more recent mind-brain identity theory. But at the same time, right from the first edition of the little *Philosophy of Religion* text in 1963, I have held that some of the parapsychological phenomena, particularly extra-sensory perception, demonstrate mental interaction independently of the brain. In *Death and Eternal Life* I tried to put these two strands together—the ideas of replica-style resurrection and of mental life independently of the physical brain. They come together in the hypothesis of a disembodied *bardo* phase immediately after death, followed in due course by re-embodiment in another space-time, and indeed possibly a succession of such re-embodiments separated by a succession of *bardo* phases. In the *bardo* phase we create our own mind-dependent world, and seeing our desires (including our unconscious desires) reflected in it we undergo a kind of psychoanalytic experience as a result of which our next embodiment becomes a relatively new start.[439]

b) Mavrodes and van Inwagen on bodily continuity

One of the most common criticisms of Hick's conception of bodily resurrection (or teleportation to 'the resurrection world') is that it does not preserve any form of bodily continuity—which is generally considered to be a necessary condition for

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[438] (Hick 1960) p. 23

[439] (Hick 1991) p. 160

personal identity. Though he does not attempt to defend Hick's particular formulation of the doctrine of bodily resurrection, one of the most historically significant recent defences of the doctrine of bodily resurrection against such criticisms was offered by George Mavrodes in 1977.

In his 'The Life Everlasting and the Bodily Criterion of Identity',[440] Mavrodes argues that the bodily criterion for personal identity is philosophically uninformative. Though his argument is highly technical, his basic thesis is relatively simple. According to Mavrodes, if we say 'person x and person y are the same person if and only if they have the same body', we will have every bit as much trouble defining the 'sameness' in which such bodily continuity consists as we would have in defining the more generic form of sameness employed in the statement 'x and y are the same person if and only if they are the same person'.

To be sure, Mavrodes' position has the advantage of simplicity. And it is important in our present context to note that this simplicity is not merely a philosophical advantage—it also has the advantage of apparent loyalty to the scriptural account. After all, Paul seems to favour such simplicity in his all-important treatment of the doctrine of bodily resurrection in his first letter to the Corinthians. He says: 'But someone may ask, "How are the dead raised? With what kind of body will they come?" How foolish! What you sow does not come to life unless it dies. But God gives it a body as he has determined . . .'[441]

It is also important to note, however, that Paul does not stop his explanation of the bodily resurrection with this admonition against idle speculation. In the verses that follow, he provides us, in the limited metaphysical vocabulary of his day, with what many would consider the fullest account of the doctrine of the bodily resurrection provided in Scripture. Is this not an invitation (with the important admonition against idle speculation at the forefront of our minds) to say all that our limited understanding will allow us to say about this doctrine?

All that Mavrodes has said (in this paper, at least) about the doctrine of the bodily resurrection is that the person that is raised will be the same person that died. Other theologians throughout history have thought it necessary to incorporate some concept

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[440] (Mavrodes 1977)

[441] 1 Corinthians 15: 35-37a

of temporary disembodied existence into the doctrine of bodily resurrection to ensure that the resurrected person is more than a mere replica.[442] But in response to the worries expressed by recent thinkers concerning the comprehensibility of such an intermediate state, are there not other options available to us in our attempt to expound upon such complex doctrines?

Despite the importance of Mavrodes' simple argument, more and more philosophical theologians throughout MacKay's lifetime called for some intelligible version of the bodily continuity criterion to fill the logical hole left in the doctrine of bodily resurrection when the intelligibility of a disembodied intermediate state is called into question. The first, and no doubt most important, of Mavrodes' critics to offer such an account of bodily continuity was Peter van Inwagen.

In his response to Mavrodes' 1977 paper, van Inwagen argues that if an exposition of the doctrine of the bodily resurrection is to be helpful, it must avoid defending traditional ways of talking about the doctrine at the expense of the doctrine's intelligibility. The following paragraph demonstrates the flavour of van Inwagen's thought:

> In what follows, there is one word that I shall avoid using: 'body'. I have no idea what this word means, at least as Mavrodes and Quinn use it. Each of them talks as if it were obvious that there is associated with each of us in some intimate way a physical object called 'his body.' But I am unable to determine what that object might be. More precisely, I am unable to determine what such phrases as 'Mavrodes' body' are supposed to *mean*. The word 'body' in these phrases cannot simply be redundant (like 'himself' in 'Mavrodes himself') or such questions as the question whether Mavrodes might 'have different bodies at different times' would make no sense whatever.[443]

Lest one object that we must define the word 'body' if we are ever to make sense of the doctrine of the *bodily* resurrection, van Inwagen is quick to add the following explanation:

> At any rate, it seems to be no part of Christian doctrine that each of us has a thing called 'a body'. There is, of course, the doctrine *called* 'the Resurrection of the Body' in which all Christians must believe. How the doctrine got that *name* is an interesting question that belongs to the history of ideas. What the doctrine *says* (in part) is that one day

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[442] As we saw above, even Hick eventually took recourse in this plea to disembodied existence with the invention of what he called the 'bardo phase' between bodily existences.

[443] (Van Inwagen 1978) p. 115

> all or most men will be restored to life by God, and that after this restoration these men will not be 'ghosts' or 'pure spirits' (whatever precisely those terms might mean) but will be able to walk about and touch one another, and to speak aloud; they will reflect light, have definite positions in space, and will each of them weigh a certain number of pounds.[444]

The problem, according to van Inwagen, is not (as Mavrodes seems to suggest) that there are competing ideas of what it would mean for a resurrected person to be the same person as a person who lived and died long before, one of which is simple and the other of which demands that the criterion of bodily continuity be added to the simple idea as a necessary condition for personal identity. The problem is that 'personal continuity' and 'bodily continuity' are not, according to van Inwagen, distinguishable concepts.

After discussing several possible theories of personal identity that would allow for a person long dead (whose body had been physically destroyed one way or another) to rise again and finding all such theories fatally flawed, van Inwagen presents his readers with one of the most infamous lines in this entire debate: 'What follows from this about the Christian hope of resurrection? Very little of interest, I think. All that follows is that if Christianity is true, then what I earlier called "certain facts about the present age" are *not* facts'.[445] These 'certain facts' include the fact that the bodies of many people whom we have every reason to believe will be resurrected have already been destroyed. After all, van Inwagen argues, if a body is really destroyed, it cannot be simply resurrected; the most that can be done for a destroyed body is to replicate it, and resurrection and replication are different precisely in that the former and not the latter preserves personal identity.

The way in which van Inwagen argues that the bodily resurrection should be understood, therefore, is as simple as it is absurd. He says that the pieces of meat we normally call 'human corpses' are really the mere, dead replicas of people who have been whisked off to heaven for safekeeping. God *could* have preserved each dying person right before our eyes, transforming them into an incorruptible physical state in which they would persist until the resurrection. Likewise, he could have simply whisked our bodies off to heaven or some other place where they would be preserved

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[444] (Van Inwagen 1978) pp. 115-116

[445] (Van Inwagen 1978) p. 120

until the end of the present world. But either of these options would have made miracles an obvious feature of every single human life, and such imprudently frequent intervention into the physical causal nexus would be uncharacteristic of the god who values faith over sight (or perhaps we should say 'faith oversight').

Though the discussion in philosophical theology over how personal identity is maintained throughout death, a long period of decay, and subsequent bodily resurrection continues in earnest to the present day, we will delay our discussion of recent contributions until after we have outlined MacKay's position. And before we begin our discussion of MacKay's brief comments on eternal life, we need to mention one more of his contemporaries—the systematic theologian, G. C. Berkouwer.

C. Systematic Theology

One of the defining characteristics of G. C. Berkouwer's *Man: The Image of God*, published in 1962, is its recognition of the substantial unity of the human person.[446] Berkouwer is aware of the longstanding historical dispute over this issue, yet his position is clear. He acknowledges the trend of modern theologians to reject as fallacious the attempts of earlier theologians (most notably, Calvin) to divide metaphysical anthropology into its 'higher' and 'lower' parts, attributing the image of God to the higher and not the lower parts, and he resolutely sides with these contemporary theologians. He says, 'According to the story in Genesis, the whole man is made in the image of God, and Genesis certainly does not imply that certain "higher" qualities exclusively make up the content of the image.'[447]

In addition to the biblical and philosophical reasons we have already discussed for rejecting any strong form of dualism in Christian metaphysical anthropology, Berkouwer also stresses an important, distinctly theological, rationale: the radical

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[446] Wolfhart Pannenberg is another prominent systematic theologian has written extensively on the implications of anthropological holism for theological anthropology (see especially (Pannenberg 1985)). Though his work is concerned more with the relationship between the self and society than the mind/body problem, there are many important parallels between these different kinds of anthropological holism. For philosophical elaboration on this Pannenberg style of anthropological holism, see (Taylor 1989). For a recent collection of recent essays elaborating on this form of theological anthropology, see (Gregersen, Drees, and Görman 2000).

[447] (Berkouwer 1962) p. 75

dependence of the whole human being (and, indeed, all of creation) on the person and power of its Creator.[448]

If we were to accept a Platonic notion of the image of God in humanity, in which the soul reflects the divine in virtue of its substantial immortality and the body is merely the manifestation of our temporary involvement in the world of becoming, then the dividing line between the eternal and the finite would obviously be drawn between the body and soul of the human being. Yet Berkouwer rightly recognises that this position contrasts sharply with the biblical doctrine of the image of God. After all, the Christian doctrine of creation draws the line between the eternal and the finite not between body and soul, but between the Creator and creature. The Christian doctrine of the divine image must therefore be defined more carefully. Though a full discussion of humanity's creation in the divine image would take us significantly off course at this point, it is important to note Berkouwer's emphasis on the Creator/creature distinction with regard to our prospects for eternal life. In his chapter on immortality, for example, he makes the telling point that the word 'immortality' only occurs twice in the Scriptures 'first in connection with God, who alone is immortal (I Timothy 6:16), and secondly in relation to mortality which must put on immortality (I Corinthians 15:53)'.[449]

Furthermore, Berkouwer's discussion of anthropological holism and the doctrine of the intermediate state takes him even further away from a Platonic metaphysical anthropology. He introduces this discussion with the following observation concerning those theologians who would accept the principle of anthropological holism:

> There can then be no idea that death affects merely the body, as a part of man; the soul is also affected by death, so that after man dies, there remains only one eschatological perspective: awakening from death. That is a perspective which has nothing to do with the 'natural'

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[448] He exposits this rationale not only in his discussion of Barth's theological anthropology (pp. 93ff) but also (and especially) in his discussion of the question as to whether there is 'a way from the radical messages of Scripture to the immortality of the soul' ((Berkouwer 1962) p. 248). In this latter context, he offers the following quotation from Kuyper's Loci, V. p. 45: 'The concept of dependence in human existence (i.e., man's creatureliness) cannot be combined with the concept of the immortality of the soul.' (Berkouwer 1962) p. 248

[449] (Berkouwer 1962) p. 243

> immortality or indestructibility of the soul, but comes exclusively from God's future creative act in Jesus Christ.[450]

In much more detail than we can summarise here, Berkouwer then outlines the positions of several contemporary theologians who are committed to anthropological holism, recognising the fact that while some, more radical, thinkers[451] understand the rejection of anthropological substance dualism as a requirement that we go on to reject the idea of any intermediate state in which dead believers can be said to await bodily resurrection, other anthropological holists are more timid in the face of such a complex and historically orthodox doctrine. Among this second group of holistic theologians we find Helmut Thielicke and Oscar Cullmann.[452] According to Berkouwer, the chief reason 'we can say that the orthodox doctrine of the intermediate state has not yet been generally rejected' is that it is not clear how such a rejection could be brought into accord with New Testament references to 'the thereafter'.[453]

Berkouwer concludes his discussion of the intermediate state (and thus his chapter on immortality) with a discussion of the Reformed creeds. In this discussion, he makes two points very clearly: 1) all of the most important Reformed creeds speak of an intermediate state and 2) the purpose of these creedal statements was *not* to produce an orthodox formulation of metaphysical anthropology but to *express* the Christian hope in the face of death in the anthropological terminology that was most meaningful to contemporary participants in that hope. We find a characteristic statement of these two points in the following selection:

> The Reformation confessions show no shadow of a doubt regarding continued existence after death, as is evident from Lord's Day 22 of the Heidelberg Catechism and from numerous other places. But, equally, in these confessions, there is no mention of *natural* immortality as an independent theme. The perspective of the *eschaton* dominates them and the relation of man to God's judgement and grace, which death does not abolish. Death and man's continued existence are indeed spoken of in anthropological categories, in terms

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[450] (Berkouwer 1962) p. 250

[451] Here he refers primarily to Althaus and Van der Leeuw.

[452] Berkouwer specifically names only Thielicke in this group, though Cullman's comments in the final chapter of his *Immortality of the Soul or Resurrection of the Dead?* (Cullmann 1958) demonstrate that he is also reluctant to directly challenge the concept of a conscious intermediate state.

[453] (Berkouwer 1962) p. 254

> of soul and body (as in the Latin text of Lord's Day 22), but this fact does not imply a systematic anthropological analysis in the sense of substantial dichotomy or of a natural immortality therein implied; rather the main point is the expectation of salvation which, in Christ, defies death, and in which we anticipate being united with Him.[454]

Before we move on to our discussion of MacKay's individual eschatology and how his thinking was shaped by the theological contributions of his contemporaries, it may be a good idea to recap what we have judged to be the most important biblical, philosophical and systematic theological advances made during his academic career. To this end, we can highlight several key points.

First, from our discussion of Oscar Cullman's work, we have seen that increasing attention was paid during MacKay's lifetime to our unity with Christ in the radical event of his bodily resurrection as a distinction between the Greek and Christian hope for eternal life.

Second, we have highlighted two trends among philosophical theologians of MacKay's day. The first trend, seen most explicitly among Wittgensteinian philosophical theologians, involves the tendency to question the idea that personal life can continue in a disembodied form after bodily death. The second trend in philosophical theology involves the effort to understand personal identity in such a way that it is at least logically possible to maintain personal continuity from normal human life, through death and bodily decay, to some future personal existence commonly referred to as 'bodily resurrection'.

Our third point, drawn to our attention by G. C. Berkouwer, was a distinctly theological contribution to the problem of metaphysical anthropology as it relates to individual eschatology. This point was the fruit of the increased attention paid to the unity of humanity's psychological, spiritual, and physical nature by twentieth century theologians. The result was a more distinctively Christian Creator/creature distinction, which contrasts sharply with the Platonic distinction between the divine-like immortal soul and the less respectable, mortal body. It is with these important contributions in mind, therefore, that we now turn our attention to MacKay's understanding of the Christian doctrine of eternal life.

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[454] (Berkouwer 1962) p. 271

II. MacKay on Eternal Life

The first thing that we must reiterate concerning MacKay's understanding of eternal life is that he wrote considerably less about it than he wrote about any of the other topics we have addressed so far. Given the fact that, as we saw in chapter 2, he considered himself to be primarily an empirical scientist who addressed theological issues only as they related to his empirical work, his reserve with regard to this issue was understandable. After all, he did his best to live by his favourite motto: 'When short of data, keep mind open, and mouth shut'.[455]

Though there is naturally very little in the way of scientific evidence *directly* relating to our hope for life beyond the grave, on several occasions MacKay's work forced him to deal with issues so closely related to the Christian hope for eternal life that he could not help but venture a few comments. In this section we will attempt to systematise the most important of these comments, addressing key questions as they arise and relating his answers, where possible, to the contributions of his contemporaries in biblical, philosophical, and systematic theology.

A. The Created Order (and Its End)

With regard to MacKay's earliest hints as to how a Christian doctrine of eternal life, informed by the best data general and special revelation have to offer, should go, the first of his publications that demand our attention is also his most overtly metaphysical. He titled it 'Divine Activity in a Scientific World'.[456]

Published in 1960, the same year he took up the chair at the University of Keele that he would occupy for the rest of his career, this paper, more than any other he ever wrote, offers us a picture of MacKay's understanding of the physical world and its relation to its Creator. As we shall soon see, of all the points summarised earlier concerning the contributions made during MacKay's lifetime by biblical, philosophical, and systematic theology, the one point that MacKay himself emphasised most is our radical dependence on the sustaining power of our Creator. This early paper provides us with a clear example of how MacKay's understanding of the Creator/creature distinction works itself out in ordinary human experience.

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[455] (MacKay 1960b; MacKay 1980a) p. 65

[456] (MacKay 1960b)

Beginning with a few comments on the kind of Creator that Christians believe in, he says:

> Our Christian Faith is in One who transcends in His nature every category of human description. We know of Him only what He has been pleased to reveal to us; and it must be one of our controlling convictions that there is infinitely more to the Being of God than anything or all that our minds can now apprehend of Him.[457]

The fact that 'we can know of Him only what He has been pleased to reveal to us', means that we can neither claim to have exhaustively understood our Creator nor reject those truths concerning Himself with which He has seen fit to provide us. MacKay elaborates upon this doctrine by identifying two features of the Bible. First, because Christianity regards it as the Word of God, believers must recognise its absolute authority. Second, because language must always assume a certain point of view (i.e. to say anything, one cannot simultaneously say everything), biblical interpreters must take great care to recognise the logical perspective from which each individual biblical statement is made. Failure to recognise the first feature of the Bible would result in the 'inverted humility' of theological scepticism while failure to recognise the second would result in the misplaced pride of 'word-perfect' fundamentalism.[458]

From this recognition of our complete epistemic dependence upon our Creator, MacKay goes on to assess the relative merits of materialism on the one hand and idealism on the other, concluding as follows:

> Scripture and common sense alike suggest to us that there is some truth in both materialist and the idealist answers. Suppose then that we explore the possibility adumbrated in the opening paragraphs, that the materialist and idealist models fail, not because their propositions are false, but because they are of inadequate logical dimensionality they are each trying, metaphorically speaking, to cram all the information in a multi-dimensional subject into a single two-dimensional projection. Like the plan and elevation views of a girder bridge, neither is false yet each alone would mislead if regarded as a complete account.[459]

Of course we should have anticipated by now that he would bring his doctrine of complementary descriptions to bear on this complex issue. In this instance, he uses

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[457] (MacKay 1960b) p. 75

[458] The phrases 'inverted pride' and 'word-perfect' are taken from (MacKay 1960b) p. 75.

[459] (MacKay 1960b) pp. 81-82

his favourite logical tool to build an understanding of the physical world, recognising the objectivity in which the physical world stands relative to any individual or collective human will, while at the same time acknowledging the radical sense in which all of creation is subject to the will of its Creator. He explains this complementary understanding of the physical world by drawing the distinction between what he calls 'static' and 'dynamic' stability.

'Static stability', as MacKay defines the term, is that stability that results from an inflexible medium. Statues and paintings would therefore provide us with clear examples of objects having static stability. Dynamic stability, on the other hand, is that stability that results from mere regularity within a dynamic medium. A classic example of this kind of stability would be an object displayed on a video screen or the curve at the top of a waterfall. Drawing this distinction between dynamic and static stability allows him to explain the extreme regularity of a world that nonetheless depends entirely upon the continuing will of its Creator for its existence from one moment to the next.[460]

Lest we should miss the importance of this metaphysical statement for our present investigation into MacKay's understanding of the Christian doctrine of eternal life, we should also highlight the single paragraph of this twenty-one page paper that makes up his section titled 'The End of the World'. Making the implications of his argument as explicit as his characteristic caution allows, MacKay says:

> Presumably from the scientific standpoint the most dramatic supernatural event in the world-picture of Christian Revelation would be the end of the world, when 'the heavens shall be folded up as a garment,' and 'we shall all be changed'. It was this among other considerations that first led to the present thought-model, and it brings out perhaps most clearly the difference made by thinking of the object-world in terms of dynamic stability. If we ask what kind of task God would have in winding up the natural order, materialism would answer in terms of a wholesale removal-operation. Idealism

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[460] He explains this relationship between God and the physical world in the following way:

> The suggestion which I believe to represent Biblical teaching on the subject is that in ultimate terms the events of our experience are directly given by God, and that the coherence we find in these events is to be attributed directly to the continually coherent and infinitely detailed Will of God their Giver. The stability of the world of objects is then to be conceived of as a dynamic stability, completely dependable for just so long as God wishes to give us experience in the current pattern, yet expressive only of one phase of the Divine Plan and Purpose, and thus liable, in His good time, to be replaced by something unimaginably better. (MacKay 1960b) p. 83

> would regard it as a problem of the eradication and replacement of ideas. (Neither might be expected to be unduly hospitable to the possibility.) From our present standpoint, we should think of it as a matter of a total change of the pattern of events mediating the object world, having as its 'interpretation' in object-language a wholesale removal-operation, and at the same time amounting from the subjective standpoint to the eradication and replacement of the corresponding system of ideas of material objects. Only that which has acquired eternal status the pattern of our eternally-significant choices made in positive response to God will ultimately survive . . . But a more detailed discussion of eschatology is certainly not within our present province.[461]

And so we see that in his first clear reference to our future Christian hope, MacKay heavily emphasises the Creator/creature distinction. But what about our personal hope for life beyond the grave? MacKay is, after all, very careful not to elaborate on the extent to which we as individual human beings are to survive the end of the world. He says that 'the pattern of our eternally-significant choices made in positive response to God' will continue into the eschaton, but to what extent can these 'patterns' be identified as 'us'? In seeking answers to these questions, the most obvious direction to look would be towards MacKay's understanding of spiritual life—especially as it relates to his decidedly holistic metaphysical anthropology.

B. Spiritual Life

MacKay's simplest explanation of spiritual life regards it as an aspect of events in which we participate, bearing much the same relationship to mental events as mental events bear to physical events. Though he never offers a great deal of explanation as to how this relationship between our spiritual and mental lives should go, he offers one of his most extensive early hints in another of his papers originally published in 1960.[462] Under the heading 'Spiritual life' he says:

> Finally, what of 'spiritual' life? Could we perhaps agree now that in the kind of way that we see psychological life 'embodied' in the physical brain, it is at least not implausible to see, in biblical terms, spiritual life as 'embodied' in the psychological mechanism of a man, if God by His grace is willing to give that man that new life? The suggestion would then be that this acquisition of life, in the New Testament sense, does not necessarily entail something which is inexplicable *psychologically*. In other words, I do not think the

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[461] (MacKay 1960b) p. 90 MacKay's ellipsis

[462] (MacKay 1960d)

> Christian has any more reason to do battle with the psychology of religion, even the psychology of conversion, than the physiology of the brain. We may well doubt that such private matter will yield much grist for the scientific mill; but that is not to say that the scientist is wrong to look for 'laws' in what data he can get.
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> I am suggesting, then, that spiritual life may be thought of in a general way as related to the scientific mechanistic structure of psychological theory (with which Freud among others has dealt) in the kind of way that psychological life can be said to be related to the activity of the nerve cells and other mechanical components (with which physiology is concerned). True, as distinct from superficial, conversion is the only way known to Christian faith of bringing about this transformation in a way which 'follows on' and does not do violence to the personality embodied.[463] [464]

Though this statement provides us with a general idea of how MacKay understood spiritual life to be related to mental and physical life, he does not offer much detail regarding the kind of personal life that results from such a divine gift. In particular, of the many questions he leaves unanswered, the one that most directly concerns our present project is this: 'How are we to understand the Christian hope for personal life beyond the grave?'.

In 1965 MacKay revised and combined two earlier papers[465] to form a book chapter on the relationship between mechanical and psychological aspects of human nature.[466] In this contribution, we find another of MacKay's early explanations of what he means by 'spiritual life'. Though this work still offers us only relatively vague hints as to our prospects for personal survival, we do find in them more detail than we have seen thus far. While discussing the common tendency among Christian thinkers to speak of our souls as rational 'things' that are somehow attached to our bodies in a removable sort of way, MacKay says:

> But is that currently 'traditional' view—or habit of speech—in fact Biblical? It would seem that for the Hebrews at least a debate in these terms could scarcely have been formulated, for their view of Nature entertained no such concept as 'mere matter obeying mechanical

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[463] Though this paper was originally published in the now difficult to find early volumes of *Faith and Thought*, this quotation was taken from its slightly revised reprint (MacKay 1966c) pp. 67&68.

[464] Though we do not have the space here for a full discussion of the relationship between religious conversion and empirical psychology, the kind of relationship MacKay here suggests is treated in much more detail by his lifelong friend and accomplished psychologist M. A. Jeeves in his 1967 booklet titled Scientific Psychology and Christian Belief (Jeeves 1967).

[465] (MacKay 1953c) and (MacKay 1952a)

[466] (MacKay 1965b)

> laws'. The main Biblical distinction would seem to be between 'spirit' on the one hand, and 'mind-body' or 'organism' on the other. *Spiritual* life is declared to be something not automatically present in a human being, but having to be received in repentance as the gift of God; it is eternal, and not limited to the spatio-temporal phase of the human organism.[467]

Though he makes it very clear that 'spiritual life' is something above and beyond 'mental life', it may not be immediately clear what it means for such a life to be eternal while every other feature of our existence would seem to be temporal. MacKay never made any direct reference to D. Z. Phillips,[468] but it is very possible that (at least at this point in his career) he understood 'spiritual life' in much the same way that Phillips used the concept of 'eternal life'.

Such a similarity to Phillips would seem to darken our prospects for finding hope for personal life beyond the grave in MacKay's thinking. If such a darkening of prospects were to take place, however, this would not merely be the result of MacKay's similarity to Phillips on the doctrine of eternal (or 'spiritual') life. On the contrary, such a result would also demonstrate that we had been 'prospecting' in the wrong place. For though MacKay clearly distinguishes between our eternal spiritual lives and 'the spatio-temporal phase of the human organism', MacKay's position must be distinguished from that of Phillips in at least this respect: MacKay's hope for life beyond the grave cannot be neatly identified with confidence in the eternality of spiritual life. We see this difference between MacKay's hope for life beyond the grave and the mere belief that spiritual life is eternal in the next paragraph after the one quoted immediately above, which reads:

> The concepts of *mental* life on the other hand find no Biblical mention apart from a body of some sort. The doctrine of the resurrection of the body indeed lends weight to the suggestion that Biblically mind and

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[467] (MacKay 1965b) p. 189

[468] It may be worth noting that the only one of his contemporaries whom we discussed earlier that MacKay ever *did* refer to directly was G. C. Berkouwer. In (MacKay 1978b) we read:

> In biblical thought, man is distinguished from all other animals as 'made in the image of God.' What this means in theological depth has been the subject of unending debate [here MacKay inserts a footnote, saying 'A detailed survey of the biblical evidence is given in (Berkouwer 1962)']. For our present purposes, however, we can extract three essential ingredients: 1. Man has rational faculties capable of apprehending not only concrete facts of his immediate environment, but also abstract ideas, including truths revealed by God. 2. Man's death on earth does not annul his relationship (whether of love or rebellion) with his Creator. 3. Man is *answerable* to God for his actions: he can be *called to account* by his Creator. (p. 179)

> body constitute two aspects of a concrete unity. This is not to say that the perishing of the present body is the end of the personality it mediated: for the person concerned it need not necessarily be even an interruption. (Even in the case of an artefact a complete knowledge of its momentary state before destruction could enable its personality to be reproduced and to 'take up where it left off' in a new mechanism, not necessarily built out of the same material.) The continuity that matters is not a continuity of material but of memories and relationships, past and present, above all with God Himself.[469]

Here we see that even as MacKay contrasts the temporality of our existence as 'mind-bodies' with the eternality of 'spiritual life', MacKay does not limit our prospects for life beyond the grave to any non-physical, non-mental, or impersonal eternal significance in which our spiritual lives may be understood to consist. In contrast to Phillips, MacKay continues to hope in some literal form of the Christian doctrine of bodily resurrection.

C. Resurrection and Re-embodiment

By his own admission,[470] he had not yet worked out these ideas in any detail when he completed this work. Yet it is important for us to note a certain tension in this way of thinking that will persist throughout MacKay's career. On the one hand, it is our 'spiritual life' that MacKay calls eternal. He even contrasts this eternal spiritual life with our temporal, psychosomatic life. But, as we have seen, when talking about our prospects for personal life beyond the grave, he directs our hope *not* towards the eternality of our *spiritual* life, but towards some literal form of the Christian doctrine of *bodily resurrection*. On the other hand, however, in saying that 'the continuity that matters is not a continuity of material but of memories and relationships', he stresses the importance of our *mental* lives with regard to our prospects for future personal life to the point of neglect for our present physical embodiment.

This neglect for our present physical embodiment would be quite uncontroversial if it were merely due to his having taken the possibility of our resurrection by the

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[469] (MacKay 1965b) p. 189

[470] MacKay concludes his next paragraph (and thus his section on eternal life) with the following disclaimer:

> But here the water is deep, and speculation finds few landmarks in revelation. It is evident that no linguistic distinction that one might wish to draw has any parallel in common usage, even in translations of the Bible, where 'spirit', 'soul' and 'mind' are often interchanged. But conceptually the distinction seems clear and necessary, and might perhaps be followed up with profit by those more competent to do so. (MacKay 1965b) p. 189

mysteriously miraculous power of the Holy Spirit for granted, as would have been the case if, for instance, he had simply made the point (as Cullman and many others have done) that our hope for continued personal life does not depend on the eternality of our spiritual lives but on our union with Christ in the radical event of his bodily resurrection. After all, if he had limited his point in this way, he could have neglected the unimportant *details* of our bodily resurrection (as Cullman and others have also done), simply asserting that this mysterious and miraculous unity brings about our bodily resurrection in such a way that our 'memories and relationships' are left intact. As it is, however, MacKay positively insists that after death, the future of our present embodiment is wholly insignificant. This assertion of MacKay's is underlined by the fact that until the final years of his career, he preferred to speak of our hope for future *re-embodiment* rather than *resurrection*. Before contrasting this position with the one he developed later in his career, however, we need to clarify his early position a bit more.

1. Early Comments

Though MacKay's early understanding of resurrection as re-embodiment may not turn out to be the fullest interpretation of the biblical data that we can hope for, we must remember that we are focusing on a very minor aspect of MacKay's early thought. Even though we will attempt in this section to highlight a slight shift in his thinking, we must note from the outset that MacKay never expressed interest in the intricate details of individual eschatology.[471] In any case, his early preference for the term 're-embodiment' as opposed to 'resurrection' should not be construed as any sort of challenge to the authority of Scripture. Though we may not agree with his interpretation, it is clear that the preference in question was due to the fact that he thought 're-embodiment' to be a (perhaps more scientifically precise) *synonym* for 'resurrection' rather than an altogether new concept that he had analysed and judged to be better founded. This feature of MacKay's early thought is displayed most clearly when, in his 1975 Henry Drummond Lecture at Stirling University, he

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[471] With regard to MacKay's lack of interest in the intricate details of how our bodily resurrection should be understood, it may be of interest to note that when, in March of 2002, she was informed that the present work was being undertaken, Dr. Valerie MacKay (D. M. MacKay's widow) said that if her late husband had been asked for details concerning our biblical hope he would have responded with words to the following effect: 'We are not told these things to satisfy idle curiosity: we are told enough to live by in obedience' (from personal correspondence dated 26/3/2002).

interrupts his own discussion of the possibility of our future re-embodiment in the following way:

> I am now arguing that if this is the kind of relationship that holds between us and our bodies, then there is no more obstacle in principle to our embodiment—'resurrection' is the biblical name for it—than there is in the case of the man whose computer has been destroyed, but who wants the same computation to continue in a new embodiment.[472]

And so we see that, far from proposing a scientistic alternative to the biblical doctrine of bodily resurrection, MacKay thought that he was being more true to the general teaching of Scripture by using the term 're-embodiment' than the more traditional term 'resurrection'.

a) Biblical Interpretation

Of all his statements disregarding the future of our present embodiment, perhaps his most radical was written in 1979. There we read:

> If it is our Creator's will that we shall again have our being as conscious agents in his presence, the provision of an appropriate body will be up to him. The fate of our present embodiment is of no consequence. The biblical promise is that we shall be 'raised to life' in a fresh embodiment, perhaps radically different from our present one (see 1 Cor. 15), but still bearing the same personal significance. All this, with the glorious hope held out by Christ's resurrection, is fully as compatible with the view outlined above as with the more traditional imagery.[473]

As MacKay implies in this passage, his claim that 'the fate of our present embodiment is of no consequence' is supported by his interpretation of 1 Corinthians 15.[474] He provides us with his most detailed exposition of this scriptural passage in

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[472] (MacKay 1980a) p. 102

[473] (MacKay 1979c) p. 102

[474] MacKay also refers to 1 Corinthians 15 (again, without providing much in the way of expository detail) in two parallel passages. First, on page 56 of (MacKay 1966c), he says:

> This is not meant to be a theological study, nor should undue pressure be put on individual metaphors; but it does seem that the Bible gives very little encouragement to the idea that we should regard ourselves as somehow seated at the controls in a chariot, our body, which is quite separate from us. Paul does use the imagery of living in a tent, or wearing a suit of clothes, to represent embodiment; but these current idioms of the day are introduced in the course of making quite different points. When the doctrine of the body itself is in question, the image he uses is that of the seed (1 Corinthians 15).

A second parallel passage can be found on p. 441 of (MacKay 1985d) where we read:

his contribution to a book on Christian philosophy of science, published in 1978. In his section on immortality we read:

> In 1 Corinthians, chapter 15, which gives our most explicit teaching on the Christian hope of eternal life, we find a remarkably similar emphasis. We are given no promise of *physical* continuity, let alone identity, between our present body and the resurrection body. As when a grain of wheat is sown, the blade that rises from the ground is a quite different structure, so at death we are 'sown as an animal body, . . . raised as a spiritual body' (1 Cor. 15:44, NEB). The continuity implied is, rather, at the level of our personal relationship with God; the personality that is ours will find expression in a new embodiment, perhaps unimaginably different from our present one, but still having the same essential characterological structure that identifies and distinguishes us as individuals here and now.[475]

But does such an account of resurrection as re-embodiment really do justice to the biblical doctrine? Would it be safe to say, for example, that the empty tomb of Jesus is *irrelevant* to our Christian hope?

But surely any argument against MacKay along these lines would be too harsh. After all, MacKay never called Christ's resurrection a re-embodiment, nor does his use of the term with regard to *our* life after death necessarily imply that the grounding of our hope (i.e. Jesus' restoration to life after being dead three days) should be understood in a similar manner. Perhaps we could simply say that Jesus' restoration to life, because his corpse had not yet been completely destroyed, was a case that can most literally be described as a resurrection whereas the hope that his resurrection secured for us is for our *re-embodiment*. After all, it is most reasonable to think that our corpses (unlike Jesus' corpse) will be completely destroyed before we live again.

The simplest objection to this interpretation, on the other hand, would be that (as MacKay clearly recognised) the *Bible* never uses the term 're-embodiment' to speak of our future life. But this objection would not be likely to convince even the most literalistic of biblical interpreters. After all, it only applies to most English

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> Briefly, if the relation between our conscious experience and our brain activity is one of embodiment rather than one of quasi-physical interaction between two different worlds, then the destruction of our present embodiment would certainly imply the termination of our conscious experience in this space-time; but it would not at all rule out the possibility, if our Creator so willed it, that we should find ourselves reembodied, perhaps (as Paul hints in I Cor. 15) in some unimaginably different embodiment, 'in the resurrection.'

[475] (MacKay 1978b) p. 183

translations of the Bible—not necessarily the Bible itself. As it turns out, the Greek word ('αναστημι') that is normally translated 'to resurrect' has a much broader lexical range than its English counterpart. In Matthew 22:24, for example, a form of 'αναστημι' is used to refer to procreation—an event to which we would hardly apply our English word 'resurrection'.[476] If it is valid to understand one process referred to in Greek by the verb 'αναστημι' as 'procreation' and another process referred to by the same Greek verb as 'resurrection' would the modern English term 're-embodiment' not fall well within the ancient lexical range of 'αναστημι'?

But even if we concede the point that MacKay's early preference for 're-embodiment' was within the lexical range of 'αναστημι', it is still not clear that 're-embodiment' is the process to which Paul intended to refer in 1 Corinthians 15. After all, the metaphor Paul uses is that of a seed's relation to the plant it produces. Though there is obviously an intense dissimilarity between seeds and the plants they produce, this dissimilarity would not necessarily imply that what physically happens to a planted seed is irrelevant to the future life of the plant. Is it really legitimate, therefore, to conclude from Paul's exposition that 'the fate of our present embodiment is of no consequence'?

Perhaps it would be best to come back to this question after we have discussed the philosophical reasoning behind his choice of terminology in more detail. For now, however, it is important for us to note that MacKay was careful in this early, brief exposition of 1 Corinthians 15 to limit his comments to what is and is not *guaranteed* by the text. In particular, we must note that he was very careful *not* to extend his analysis into a full-blown speculative theory—especially one that could be only tentatively supported by the Scriptures. MacKay's preference for the term 're-embodiment' as opposed to 'resurrection' does not imply that he had more to say about the end of the world than was portrayed by the traditional terminology. On the contrary, MacKay seems to have preferred 're-embodiment' precisely because it

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[476] In this verse, the Greek 'λέγοντες, Διδάσκαλε, Μωϋσῆς εἶπεν, Ἐάν τις ἀποθάνῃ μὴ ἔχων τέκνα, ἐπιγαμβρεύσει ὁ ἀδελφὸς αὐτοῦ τὴν γυναῖκα αὐτοῦ καὶ ἀναστήσει σπέρμα τῷ ἀδελφῷ αὐτοῦ.' is translated '"Teacher," they said, "Moses told us that if a man dies without having children, his brother must marry the widow and have children for him."' in the NIV. Some older translations, such as the Authorized Version, seek to preserve the connection between 'αναστημι' and 'to resurrect' as tightly as possible, though the resulting usage of 'to raise up' is an obvious stretch of the modern lexical range of this class of English verbs. In the Authorized Version, this verse is rendered: 'Saying, Master, Moses said, If a man die, having no children, his brother shall marry his wife, and raise up seed unto his brother.'

implies *less* that 'resurrection'. His understanding of Scripture merely led him to believe that physical continuity was *not guaranteed*, and, as we shall soon see, his early philosophical considerations led him to believe that it was not necessary.

b) Early Philosophical Considerations

The philosophical considerations that seem to have led MacKay to understand our life beyond the grave as 're-embodiment' rather than 'resurrection' are very closely related to the arguments of John Hick we discussed earlier. In the paragraphs immediately following his exposition of 1 Corinthians 15 (quoted above), MacKay responds to arguments levelled against Hick's explanation of resurrection as analogous to Star Trek style teleportation—particularly those arguments suggesting that such a 'resurrection' should not be resurrection at all, but merely replication. He says that such arguments, depending, as they must, upon the criterion of bodily continuity to distinguish between resurrection bodies and replica persons, are 'strangely perverse'. 'Nothing is more universally accepted', MacKay argues, 'than our daily experience of waking up to find ourselves the same individuals who went to sleep the night before, despite all kinds of metabolic changes in our bodily tissues.'[477] As we have seen from our discussion of dynamic and static stability, MacKay believed that there is one and only one criterion by which we can absolutely determine the identity of any created object from one moment to the next—the sovereign will of the Creator. Whatever he may have come to conclude with regard to the importance of our present embodiment for our prospects of resurrection, on this point he remained unequivocally clear throughout his life. As we see from this early writing, MacKay saw this radical dependence on the sovereign will of the Creator as an alleviation of any epistemic need for the concept of bodily continuity as a ground for personal identity. With regard to those who would cling to some notion of bodily continuity for objective reference, therefore, MacKay says:

> Mysterious though the idea of resurrection may be, there would seem to be no basic *logical* difference between the problem of personal identity upon waking up in another world and that of waking up in this world. The objective reference in either case must of course be ontologically to the *fiat* of our Creator, to whom we owe our continual identity moment by moment, day by day. If He knows and recognises us in the resurrection as those whom He knew in the days of our flesh,

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[477] (MacKay 1978b) p. 184

> then by the same token, that is who we are in fact, for it is our Creator who alone determines and gives being to what is the case.[478]

Clearly, we must admit that this kind of reasoning flows from a healthy recognition of the Creator/creature distinction. We as creatures depend upon our Creator every moment of every day. We depend upon the provision of our Creator for the world in which we live and even our very own bodily selves. But surely it would be misleading to speak of our Creator's consistent provision from one moment to the next as a succession of physical 're-embodiments'. Furthermore, we have seen from our brief discussion of MacKay's early comments that he not only preferred the term 're-embodiment' to 'resurrection', but he also went so far in his denial of the bodily criterion for personal continuity as to claim that 'the fate of our present embodiment is of no consequence'.[479] At the very close of his academic career, however, a slight but very important shift took place with regard to MacKay's understanding of personal continuity.

2. Later Comments

The most extended treatment MacKay ever gave to the question of life beyond the grave was presented in his final Gifford Lecture at the University of Glasgow. Sadly, when he presented this series of lectures, MacKay himself was a very sick man. As he offered his most extensive comments ever regarding our prospects for life beyond the grave, he was painfully aware of the fact that his own death was very near.

In this lecture, he first acknowledges the fact that the metaphysical anthropology he had developed throughout his career strongly suggests that the end of our present embodiment is the end of us. Throughout his life he had argued that substance dualism, the most historically popular understanding of human immortality, is a philosophical notion for which no solid scientific or biblical evidence exists. MacKay clearly maintained this position even when faced with the imminent reality of his own death.

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[478] (MacKay 1978b) p. 184

[479] (MacKay 1979c) p. 102

But in saying that his metaphysical anthropology left 'nothing automatic about immortality',[480] he was *not* denying any hope of future existence. As we have seen, MacKay believed in a literal form of bodily resurrection at the end of time. It was quite natural, therefore, to follow up his affirmation that our personal lives are intricately bound up with some form of embodiment with a discussion of the question that most interests us in this portion of our study, namely: 'How intimate is our dependence on this particular embodiment?'[481]

He opens his discussion of this question with the following observation:

> At first sight this might seem a senseless question. Whatever our theory of the relation between brain and mind, we have come across plenty of evidence that if our brain is damaged our mind is correspondingly maimed, and if the damage is great enough we lose consciousness or die. If our conscious agency is thought of as embodied in our brain activity, it is even more obvious that we must keep our embodiment in good order by eating and drinking just enough of the right stuff, and not too much of the wrong stuff, if we want our minds to function normally.[482]

He then develops this point with reference to two of his favourite examples of the complementarity relationship: a message written in lights and a triangle drawn in chalk. He draws our attention to the fact that if you muck about with the wiring of a marquis sign, you are liable to distort the message being displayed. Likewise, you can't change the way the message reads without making some electrical changes. In this sense, the message and the medium are intricately related. More to the point, if you drop a bomb on the sign (or, less dramatically, you were to merely unplug it), it would not make sense to expect the message to continue being displayed. But does this really mean that the message no longer exists? Would it not be possible for a person who read the sign just before it quit working to write out the message by hand on another sign? Clearly we would not say that it was a *new* message (as long as the meaning had not changed) despite the fact that there was absolutely no physical continuity between the old marquis sign and the new handwritten one. If we extend this metaphor back to the relationship between a human being and its physical embodiment, we can better understand some of the philosophical reasons MacKay

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[480] (MacKay 1991b) p. 259

[481] (MacKay 1991b) p. 259

[482] (MacKay 1991b) p. 259

had for preferring the term 're-embodiment' to 'resurrection'. After all, if our present embodiment, which consists of the 'dust' of this earth (cursed by God after the fall of Adam) is cremated after we die, and if we believe that the Scriptures promise a future life, embodied in the glorified, un-cursed matter of the New Creation, need we assume any physical continuity between our old, cursed ashes and our new, glorified flesh? Clearly, MacKay's early preference for the term 're-embodiment' as opposed to 'resurrection' implied that he thought any such assumption unnecessary.

But as we have noted, MacKay's understanding of the bodily resurrection made an important shift in the final years of his career. We begin to see the reasoning behind this shift as he moves from a discussion of his favourite examples of the complementarity relationship to a discussion of the specific case presented by our multifaceted existence.

As he comes to address the relationship between our personalities and our present embodiment more specifically, MacKay reminds us that this relationship involves aspects of interdependence as well as independence. Clearly, if you want to keep a person's conscious experience from being carried out in your dressing room, the most effective way to do so is to lock the door. Keep out the body and you keep out the soul. In at least this respect, we all recognise the interdependence of conscious experience and its physical embodiment. But we have also become quite comfortable with the fact that this interdependence is tempered by a degree of independence as well. After all, it is a well-known fact that the vast majority of molecules making up our physical embodiments will be replaced at some point in our lives. Given these dual aspects of independence and interdependence, the natural question for our purposes is this: How many cells can be replaced at one time without calling our identity into question?

In his final Gifford Lecture, MacKay begins his discussion of this question with another analogy. He asks us to consider the case of a computer system set up to answer questions regarding train service by telephone. With regard to such a system, MacKay observes that there is no limit in principle to the number of hardware components that can be replaced without changing the essential nature of the system. After all, we have defined the system not by its physical nature, but by its ability to distribute information. Changes in the flow of energy, therefore, at least to the extent that these changes leave the basic flow of information intact, do not threaten the

survival of our system as we have defined it. Obviously, this analogy would suggest that the fate of our present embodiment is of no consequence to our prospects for life beyond the grave in a new embodiment. But this analogy only holds to the extent that we, like our imaginary system, are in essence nothing but information processors. And we know that MacKay was keen throughout his life to avoid the fallacy he affectionately called 'nothing buttery'.

This is the context in which MacKay again comes to address the possibility raised by Hick that we are 'teleported', as it were, into the resurrection world as soon as we die. As we saw earlier, Hick's model would suggest that the physical continuity between past and future embodiments are irrelevant when contrasted with the continuity of our selves-as-information-flow-systems.

Given MacKay's preference for speaking of 're-embodiment' as opposed to 'resurrection', along with his claim, only seven years earlier, that 'The fate of our present embodiment is of no consequence',[483] it is quite natural for us to take MacKay's response to the teleportation example for granted. After all, as recently as 1978 he had called the arguments of Hick's critics 'strangely perverse'.[484] It may come as somewhat of a surprise, therefore, to find that in his final Gifford Lecture, MacKay takes a somewhat different position. Not only does he refrain from using the term 're-embodiment' with reference to the biblical doctrine of bodily resurrection, but he also goes so far as to suggest that with regard to the imagined possibility of teleportation, 'it would seem absurd to suggest that what identifies you is simply the information-flow pattern in your nervous system'.[485] Instead of repeating his assertion that 'the fate of our present embodiment is of no consequence', he states in his Gifford Lecture that '. . . our physical embodiment here and now is not irrelevant'.[486] How are we to explain this apparent shift in priorities?

a) Biblical Interpretation

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[483] (MacKay 1979c) p. 102

[484] (MacKay 1978b) p. 183

[485] (MacKay 1991b) p. 264

[486] (MacKay 1991b) p. 271

The most immediate answer to this question is that he seems to have broadened his interpretation of 1 Corinthians 15—specifically with regard to the reservations that we expressed earlier concerning Paul's analogy of a seed and its resulting plant. Whereas in his early exposition of this passage, MacKay had not mentioned any aspect of continuity between the seeds and plants, we find a more complete treatment of this metaphor in his published[487] Gifford Lectures. There we read:

> Remember, for example, how Paul, writing in 1 Corinthians 15 imagines an objector who says: 'What's all this talk about the resurrection? What sort of a body are they supposed to be provided with? Where do they get their body from?' and Paul says: 'You foolish man; when you plant a seed in the ground, you don't expect a seed to come up; you expect a shoot, a blade, which will be physically quite different.' He doesn't go into biological detail, his conceptions were no doubt different from ours. But the point he is making is that there is *an element of continuity*; what comes up is related to the seed that is put in, yet the plant is different in all kinds of ways.[488]

But what are we to make of this 'element of continuity' between our present and future embodiments? After all, MacKay insisted throughout his career that our bodily resurrection should *not* be understood as the mere re-assembly and resuscitation of disintegrated corpses. If he really believed that our spiritual, mental,

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[487] The section from which we have taken this quotation is one of the very few sections of *Behind the Eye* that does not follow the transcript of MacKay's lecture verbatim. Though the portion of this section that varies from the original transcript is not included in our quotation, it does form part of the *context*, and thus our interpretation depends upon it.

As we have noted, MacKay was a very sick man when he gave these lectures. Before he died, therefore, he charged his wife with the task of editing his lectures for publication, clarifying points that he may not have thoroughly explained and integrating his answers to questions back into the text of his lectures. One of the few comments that his widow saw fit to integrate into this section may actually camouflage the shift in emphasis we are attempting to highlight (though it does not, if properly interpreted, significantly alter the point he was making). This comment reads as follows: 'What matters is the combination of discontinuity of embodiment with a continuity sufficient to make it meaningful to use the same name, as it were, of the resurrected one.' (p. 271)

MacKay's widow is not to be faulted for having added this comment to the section from which we are quoting. After all, this comment *was* quoted directly from the question and answer session immediately following this lecture. The one sense in which its addition could be misleading, however, is that as it is placed in *Behind the Eye*, the 'discontinuity of embodiment' could be interpreted as a *complete, physical* discontinuity—suggesting, once again, that what MacKay had in mind was a 're-embodiment' as opposed to a 'resurrection'. The question MacKay was addressing when he uttered the inserted comment, however, regarded the *temporal* relationship between the person who dies in this world and the person who is resurrected in the world to come. Taken in its original context, therefore, we see more plainly than we might have otherwise seen that what MacKay meant by the phrase 'discontinuity of embodiment' was not necessarily a *physical* discontinuity but a *temporal* one. We will discuss this distinction in more detail in chapter 7.

[488] (MacKay 1991b) p. 270 (italics added)

and physical lives constituted complementary descriptions of the very same multifaceted events, why should he back away from the implications suggested by his favourite examples of complementarity?

b) Logical Considerations

The most obvious answer to this question is that at some point late in his career, he came to recognise important dissimilarities between our embodiment and his favourite examples of complementarity. After all, MacKay openly acknowledged the fact that any important dissimilarity (if such a dissimilarity exists) would force us to reject any simple argument from analogy.[489]

MacKay explains one such dissimilarity in a paper he presented to the 9th International Wittgenstein Symposium in 1984. In this paper, MacKay explores several philosophical implications of thinking of our mental lives as embodied in our central nervous systems. For our purposes, the most important philosophical implication to which he draws our attention involves the way in which the brain processes information. To understand the significance of the way our brains process information, however, we must first understand the basic difference between digital and analogue processing.

The main difference between digital and analogue processing is that whereas digital processing always follows some explicit program, analogue processing depends not only on its pre-programmed instructions, but also on some physical variable. In adding the numbers 1 and 2, for example, the digital method would involve looking up the numerals '1' and '2' on some sort of addition table and reading off the answer provided. The analogue method, on the other hand, would be more like a physical experiment. We could, for example, extend a single finger, then extend two more, and finally, count how many fingers are extended.

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[489] On the proper use of arguments from analogy, MacKay said the following in his Gifford Lectures:

> First and foremost, we need to know which features of these simpler examples of embodiment are present in our own case and which are not. Analogies are fine as a way of helping us to see possibilities we might otherwise have overlooked or dismissed as meaningless, but the possibilities they suggest must be examined on their own merits, and cannot be defended just by appeal to the analogies that suggested them. (MacKay 1991b) p. 260

This distinction is important because a considerable amount of analogue processing goes on within the human brain. The most important philosophical implication of this feature of our brains is that our personalities are *not* related to our brains in the simple (and essentially removable) sort of way that the software (or system of rules) is related to the hardware (or rule-following mechanism) of a digital computer.

Because our brains normally function in a way that involves what can be best characterised as analogue information processing, they are intricately tied to multiple physical variables for their proper function. Further, because our personalities are essentially linked to the ways in which we respond to various bits of information, our personalities are intricately tied up with the specific piece of physical matter that we call 'our brains'. MacKay makes this point in the following way:

> . . . since all that characterizes us as individuals (our memories, dispositions, skills etc.) depends *ex hypothesi* on the detailed physical structure upon and in which the aforementioned 'internal experimentation' is carried out, and on which each twist and turn of our experience leaves its mark in a widely distributed and largely implicit physical form, it is impossible even in principle to divorce our personal identity from the specific brain-matter in which it is embodied, in the easy way in which the identity of an equation can be divorced from its specific embodiment in a digital computer. I am the individual whose brain-matter went through this and that specific course as a result of these and those specific internal experiments in and upon it . . . In short, for us as embodied persons, 'matter matters'.[490]

It is not difficult to understand how such reasoning led MacKay away from his early insistence that the fate of our present physical embodiment is irrelevant. We must also be careful, however, not to overstate the implications of this shift in his thought. After all, he never, at any point in his career, gave any credence to the bodily criterion of identity. MacKay always appealed to the sovereign will of the Creator as the only infallible judge between personal continuity and replication. Furthermore, even before the shift in his thinking that we have been discussing had taken place, MacKay was very careful to note that his characterisation of our future life as re-embodiment was not intended to imply that the cogency of biblical doctrine depends in any way on an argument from analogy with a digital computer.[491]

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[490] (MacKay 1985a) pp. 107-108

[491] In (MacKay 1980a), for example, he says, 'Please do not mistake this as an argument for believing in eternal life by analogy with computers; all it does is to demonstrate a fallacy in the contrary

III. Taking Stock

Of all the contributions we mentioned in the first section of this chapter, G. C. Berkouwer's theological anthropology is the only work directly cited by MacKay.[492] MacKay's agreement with Berkouwer, however, is not indicated merely by MacKay's brief reference to Berkouwer's work. After all, MacKay published his own statement of the creation's radical dependence upon its Creator two years before the publication of *Man: The Image of God*, demonstrating that he and Berkouwer were part of the same theological tradition all along.

With regard to his colleagues in philosophical theology, we have identified in this chapter a slight shift in MacKay's thought regarding the relative importance of our present embodiment, indicating that while he had agreed with Hick's argument utterly disregarding the fate of our physical bodies in the early stages of his career, he clearly dismissed this position in the later years of his life. We have also seen, however, that MacKay never insisted, as van Inwagen did, that *bodily* continuity must be maintained between the people we are now and the people we will be in the life to come. Furthermore, we have seen that MacKay's rejection of the bodily criterion of personal identity extended beyond the 'negative' arguments of Mavrodes, which merely argued that the bodily criterion introduced a vicious regress. Instead, we have seen that MacKay offered a 'positive' account of the one true objective reference. This positive account further emphasises the importance of the Creator/creature distinction because it recognises the ultimate epistemic authority of our Creator's sovereign will.

MacKay never referred directly to Wittgensteinian arguments against the possibility of meaningful, disembodied, personal existence, though we have seen in this chapter that his position was clearly compatible with theirs.[493] He was also quick to point out, however, that while the Holy Spirit invites us to begin our eternally significant

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argument. Christians base their belief on Christ's promise that the Creator will give those who love him a reembodied existence, as the very same agents in some different realm. My argument is that this promise makes no less sense today than when it was first proclaimed.' (p. 102)

[492](MacKay 1978b) p. 179.

[493] While MacKay did not go quite so far as the Wittgensteinians in renouncing the very intelligibility of disembodied existence, he repeatedly emphasised the fact that neither his understanding of the mind/body relationship nor the testimonies of any biblical writer give any reason to believe that human conscious activity can take place in the absence of a body (see, for example, (MacKay 1991b) p. 274 n. 1).

'spiritual' lives here and now, the biblical promise of eternal life extends beyond our participation in this fallen world. The Bible gives us hope of a new life, commencing with our bodily resurrection in a new world order.

Of all the contributions we summarised in the first part of this chapter, the one that relates *least* directly to MacKay's published comments is the contribution of Oscar Cullman and subsequent biblical theologians. Given the nature of debate over the mind/body problem during MacKay's lifetime, it is natural that such contributions would not be cited directly by someone playing MacKay's scholarly role. In the years since MacKay's death, however, debate over the mind/body problem among openly Christian philosophers has taken on a distinctively eschatological flavour. In this new dispensation of philosophical debate, a much broader range of biblical evidence is being taken into account. After all, the Bible offers us a lot more information regarding the life to come than that presented in 1 Corinthians 15. Jesus, for example, promised the thief on the cross, 'Today you will be with me in paradise.' Can such a promise be reconciled with a metaphysical anthropology that takes our embodiment as seriously as does Comprehensive Realism? This is the sort of question to which debate over the mind/body problem in Christian philosophy has turned in the past few years. And it is to this new dispensation of the age-old controversy that we shall now turn our attention as we move into our seventh and final chapter.

Chapter 7: Comprehensive Realism and the Next Generation

As far as our present study is concerned, one of the most important features of philosophical debate over the mind/body problem since the end of Donald MacKay's academic career is that it has been taken up in earnest by distinctively Christian philosophers. This recent influx of serious Christian philosophers, together with several serious philosophical difficulties, has led to the widespread demise of reductionistic mind/brain identity theory. In recent years, therefore, several important philosophers have attempted to 'resurrect' some form of dualism—despite the fact that the undeniable trend in medical science continues to suggest an ever-tightening link between our physical and mental lives[494]. As we shall soon see, this recent tendency away from reductionism has not only inspired one philosopher's gallant attempt to resurrect the ancient, Cartesian view, but it has also spawned a new generation of attempts at a consistent non-reductive-yet-holistic position. The problem of personal identity, however, continues to haunt those Christian philosophers who would want to embrace both some form of holism and some hope for life beyond the grave. For this reason, several attempts have also been made recently to explain how bodily resurrection might be said to preserve personal identity.

In this chapter, we will begin with a discussion of several recently defended general theories of metaphysical anthropology. We will start with an evaluation of John Foster's philosophical arguments. Foster is important to our study because since the end of MacKay's academic career he has, almost single-handedly, attempted to establish a strictly a-religious argument to persuade contemporary philosophers to return to their Cartesian roots, openly recognising the two distinct substances of which all rational creatures are (at least according to Foster) composed. After attempting a response to Foster's arguments from a Comprehensive Realist perspective, we will discuss several novel positions recently put forward by Christian philosophers, ranging from the emergent dualism of William Hasker to the non-dualist Constitution View put forward by Lynne Rudder Baker.

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[494] We will be discussing the works of several of these dualists in the sections that follow. For more discussion on the attempted revival of dualism by Christian philosophers, see parts 1 and 2 of (Corcoran, 2001).

Recognising the fact that most of the recent controversy over Christian holistic metaphysical anthropologies surrounds the issue of personal identity and life beyond the grave, we will then turn our attention to recent attempts to develop a theory of personal identity that is compatible with classical Christian eschatology. There we will continue our evaluation of Lynne Rudder Baker's Constitution View with a discussion of her comments regarding the possibility of bodily resurrection. We will also discuss Kevin Corcoran's contribution this discussion, contrasting his position with Baker's in such a way as to introduce a broader discussion of how the Comprehensive Realist might work toward a fuller understanding of individual eschatology.

I. Recent Contributions to General Metaphysical Anthropology

A. John Foster and the Return of Substance Dualism

As we saw in chapter 1, the trend of metaphysical anthropology for the past few centuries has been (in general) away from Cartesian-style substance dualism. In 1991, however, John Foster published a substantial critique of holism,[495] effectively establishing his role as Cartesian dualism's most significant modern-day defender. It was, no doubt, primarily for this reason that he was invited to participate in the important 1998 Notre Dame conference 'Varieties of Dualism'. His paper for that conference was subsequently published as the initial essay in Kevin Corcoran's recent collection *Soul, Body, and Survival.*

Foster begins this recent contribution,[496] titled 'A Brief Defence of the Cartesian View', by arguing that the mental cannot be reduced to the physical because it is both sui generis and fundamental. As we have seen, this is a conclusion with which MacKay would wholeheartedly agree.[497] After all, while MacKay was careful *not* to say that the I-story is *more* fundamental than the O-story, he clearly believed that

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[495] (Foster 1991)

[496] (Foster 2001)

[497] In his review of Swinburne's *Evolution of the Soul* (Swinburne 1986) for example, MacKay says:

> Neglect of the primacy of conscious experience has indeed blighted most attempts to see man in purely material terms (the materialist position is remotely plausable only when the materialist is talking about people other than himself). But is dualist interactionism the only reasonable alternative? (MacKay 1986b) p. 679.

both the I-story and the O-story are undeniably valid perspectives on every conscious human experience.

Foster explains what he means by 'sui generis and fundamental', however, in a way that may make a Comprehensive Realist a bit nervous. He says that 'this involves a denial of any form of psychophysical identity (the identity of mental phenomena with physical phenomena).'[498] While the denial of which Foster speaks is one that *could* be accepted by the Comprehensive Realist, it would seem to be, at best, misleading. After all, while MacKay would readily agree with Foster so far as to say that the terms 'mental event' and 'physical event' denote very different concepts, in so far as Foster means to imply that it is impossible for both concepts to apply to a single event, MacKay would most certainly disagree. It is, however, Foster's disagreement from MacKay on this point that distinguishes his position as a radical form of dualism.

But Foster's dualism is not just any radical form of dualism. His dualism is of the old Cartesian variety known as 'substance dualism'. For Foster not only assumes that the necessity of a *conceptual* mental/physical distinction necessarily implies a distinction between mental and physical *events*, but he also assumes that for any mental/physical distinction to be meaningful, it must hold with regard to *items* as well as events and concepts.[499] It is this final assumption that makes Foster a *substance* dualist. We see this feature of his thinking perhaps most explicitly in his attempt to refute what is known as the 'token identity thesis'.

The distinction between the 'token' and 'type' identity theses is roughly the same as the distinction we made in chapter 2 between the positions put forward by J. J. C. Smart and U. T. Place, though it is has grown much more specific since the papers we discussed there were published. Whereas the type identity thesis maintains that mental descriptions are nothing more than physical descriptions expressed in different language, the token identity thesis is a bit more careful. It makes the lesser claim that for every legitimate mental description there must also obtain some physical description (whether we know exactly how such a physical description should go or not) such that in every event to which an important aspect of that specific mental description applies, an important aspect of that specific physical

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[498] (Foster 2001) p. 15

[499] See quotation immediately below.

description also applies. While this may sound like a very complicated way of describing the token identity thesis, this complexity (or precision, to be a bit more positive about it) is necessary if one is to maintain logical distinctions between descriptions, events, and entities.[500] This is precisely the complexity that Foster's characterisation of the token identity thesis lacks; and this lack of precision forces him to reject the token identity thesis as he understands it.

We see the consequence of Foster's imprecision most clearly in a single line of his argument against the token identity thesis. Arguing from the fact that the terms 'mental' and 'physical' denote different conceptual kinds, Foster reasons that for the token identity thesis to work, 'we have to be able to understand *how* ITEMS of such apparently different kinds can be numerically the same'.[501] As MacKay would, no doubt, be quick to point out, however, without Foster's equivocation between concepts and objects, his criticism would not stand. After all, to introduce a less complicated example, the admittedly different concepts denoted by the terms 'red' and 'ball' give us no problems in saying that a red ball is one, single ITEM.

Now that we have seen how Foster introduces this important equivocation, its role in his overall argument for substance dualism should be obvious. Foster summarises his argument in the following way:

> If, as I have argued, mentality is something sui generis and fundamental, and if, as I have also argued, it is to be ultimately represented as belonging to subjects, then we have to accept that these subjects are wholly non-physical. We have to accept that, even though we ordinarily ascribe mentality to corporeal objects (in particular, to human beings construed as members of an animal species), the entities which *fundamentally* qualify as the subjects of the mentality involved (the entities which feature as subjects in the philosophically fundamental account) are wholly non-physical in their intrinsic nature, and (being thus non-physical in nature) are without location in physical space.[502]

Once we see the central equivocation in Foster's argument, we do not even need to pursue the question of why he assumes that subjects must always be non-physical or why such allegedly non-physical entities cannot be located in physical space.

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[500] For more on the tendency to blur distinctions between descriptions, events, and entities when attempting to define the token identity thesis, see (Norman 2004) pagination not yet set.

[501] (Foster 2001) p. 19 (italics his, capitals mine)

[502] (Foster 2001) p. 28

Though our recognition of this crucial equivocation makes his paper significantly less important to our present study, we need to comment on one remaining feature of his paper before we move on to discuss the less radical forms of dualism that have been put forward more recently. In his final section, Foster admits that substance dualism leaves us with one very important question unanswered, namely: 'How do non-material souls such as ours come to be conjoined with physical bodies?'. While the causal implications of this question form the substance of Jaegwon Kim's argument against substance dualism published immediately after Foster's essay in Corcoran's collection,[503] this question does not seem to bother Foster at all. After all, he argues, this question suggests a perfect philosophical job description for God. But in saying this, he is not moving away from the a-religious foundation of his argument for substance dualism. He is, rather, tacking a religious, apologetic argument on the end of his a-religious argument for substance dualism. For, since Foster believes that he has already argued strongly for substance dualist metaphysical anthropology, the question of how our souls come to be conjoined to our bodies does *not* give Foster a reason to be suspicious of substance dualism. He does think that it provides, however, a reason to be suspicious of atheism.

Though there is much more that could be said concerning this kind of argument for the existence of God, it will suffice for our present purposes to say that the Comprehensive Realist can rejoice in the fact that her belief in God is not founded upon ignorance of any kind, much less such an ill-founded ignorance as that which Foster's apologetic would encourage. After all, MacKay directly addressed just this sort of argument when he unequivocally asserted that 'Christianity has no stakes in our ignorance of the physical causes of brain events'.[504]

B. William Hasker and Emergent Dualism

As we saw in chapter 5, William Hasker shares many philosophical interests and commitments with MacKay, though he is significantly less comfortable than MacKay with the idea of studying brain physiology in the hopes of gaining insight into our mental processes. In chapter 5, we saw how this difference worked itself out in Hasker's and MacKay's respective views on the possibility of human freedom

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[503] (Kim 2001)

[504] (MacKay 1978b) p. 189

within a hypothetically mechanistic universe. As Hasker has come to address the mind/body problem more specifically in recent years,[505] we see this same difference revealing itself in a slightly different way. Whereas MacKay actively promoted the tendency to think of mind and body as an essential unity, provocatively referring to human beings as 'The Clockwork Image', Hasker is equally provocative in his resistance to this tendency, calling his position 'emergent dualism'. Rhetoric aside, however, the most striking feature of Hasker's theory is its similarity to MacKay's.

Hasker's favourite argument against taking the unity of mind and body too seriously is what he calls 'the unity of consciousness argument'. In his 1995 paper 'Concerning the Unity of Consciousness',[506] Hasker argues that because our conscious experience is essentially simple, we (as the subjects of that unitary conscious experience) must be likewise simple. Since our physical bodies are *not* simple, therefore, we are not (strictly speaking) our bodies. Concerning the project, encouraged by MacKay, of trying to learn more about human beings by studying the brain as an information processor, Hasker says:

> But the unity-of-consciousness argument places an important barrier in the way of this project, by pointing to a property of the mind—my awareness of my present visual field—which is *not* a logical consequence of the properties of and relations between the brain's physical parts.
>
> We may conclude, then, that mind is *logically irreducible* to the brain, in that it has properties which are not logically implied by the properties of, and relations between, the physical parts of the brain. But from this it follows, in view of the principle of reducibility, that the mind is also *ontologically irreducible* to the brain; in Sellars' phrase the mind is 'correlated with' rather than 'consists of' the brain's parts.[507]

We have seen that MacKay would be in complete agreement with Hasker's claim that 'the mind is logically irreducible to the brain', though their reasoning is considerably different. Whereas Hasker seems to be deriving his evidence for irreducibility almost exclusively from the fact that features of our mental lives can be identified that cannot properly said to be features of our physical lives, MacKay's

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[505] In addition to the sources cited below, see (Hasker 1999) for an extensive exposition of Hasker's metaphysical anthropology.

[506] (Hasker 1995)

[507] (Hasker 1995) pp. 537-538

reasoning is considerably broader. MacKay did not simply point out a few differing features between our concepts of 'mind' and 'brain'; he called our attention the fact that mental and physical descriptions assume radically different perspectives on the events being described. The irreducibility of mind to brain, therefore, is not, according to MacKay, grounded merely in any number of asymmetrical *features*, but on the much broader asymmetry of *standpoint*.

This brings us to Hasker's claim that logical irreducibility implies ontological irreducibility. Before we can say anything definitive concerning the Comprehensive Realist's response to such a claim, we need to clarify what it is that Hasker is claiming. First, Hasker clearly believes that the kind of 'ontological irreducibility' he is arguing for implies some form of dualism. At least to this extent, the Comprehensive Realist would clearly be somewhat uncomfortable. Interestingly, however, Hasker goes on to claim that *his* form of dualism, the kind of dualism implied by 'ontological irreducibility', is not necessarily a dualism of fully *independent* substances. This claim would, of course, allay at least the worst of the Comprehensive Realist's worries—though much more detail would be required to make an acceptance of Hasker's position likely.

In explaining what is meant by 'ontological irreducibility', Hasker offers the following example:

> Here a comparison can be drawn with such a familiar physical phenomenon as a magnetic field, which is *correlated with* but does not *consist of* the 'system of objects' which is the generating magnet. Such an 'emergent self' can, I would argue, play the role not only of the consciousness which is aware of the visual field, but of the acting subject of free moral choice.[508]

When, in a later work, he develops this position with regard to our prospects for life beyond the grave, he elaborates on this example further, saying:

> In principle, emergent dualism leaves open the question of life after death for human beings. Certainly the theory provides no metaphysical guarantee of survival. If anything, the field analogy cuts the other way: stop the generator, destroy the magnet, and the magnetic field disappears. It seems however, that there is at least the *logical possibility* for the field to continue without its supporting magnet; it is, after all, a distinct individual. No doubt an omnipotent God could annihilate all of the electromagnets in a particle accelerator, and instantaneously replace them with others, while

[508] (Hasker 1995) p. 542

> causing the identical field to persist in being. Or, he could directly sustain the field by his own power, without the need for a material 'generator' of any kind. Perhaps there is no reason why God would do this. But Christians believe there is indeed a reason for God to concern himself with the continued existence of rational souls.[509]

Since we can see such obvious similarity between the way Hasker unpacks his notion of the 'ontological irreducibility' of the mind and the way MacKay explains the relationship between persons and their embodiments (as we saw most explicitly in chapter 6), the Comprehensive Realist may choose to simply dismiss the terminological differences introduced by Hasker's insistence that his theory is a form of dualism. But why would Hasker want to deny that we can study our minds by studying the physiological structures of our brains despite the fact that much has been learned about the parallel case of magnetic fields by the physiological study of magnets (even to the extent that we can now *build* magnets, complete with the magnetic fields they inevitably produce)? Perhaps Hasker offers some help to those who cannot understand the motivation for his denial in the following qualification:

> The properties of the magnetic field and the other fields identified by physics do not seem to be emergent in the strong sense required for the properties of mind. Nor does it seem that these fields possess the kind of unity that is required for the mind, as shown by the unity-of-consciousness argument. The analogy with the magnetic field is useful in enabling us to conceive of the ontological status of the mind according to the present theory.[510]

Unfortunately, however, Hasker has yet to develop his conception of the kind of difference he has in mind when he says that magnetic fields do not 'posses the kind of unity that is required for the mind'. For this reason, the Comprehensive Realist may not yet be convinced that the dis-analogies within Hasker's own example are strong enough to preclude the kind of physiological study in which MacKay spent most of his life profitably engaged—the kind of physiological study that was inspired by his suspicion of dualism on the one hand and reductionism on the other.

C. Nancey Murphy and Non-reductive Physicalism

Nancey Murphy has made another of the most interesting attempts at solving the mind/body problem since the end of MacKay's career. Murphy's system is of

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[509] (Hasker 2001) pp. 117-118

[510] (Hasker 2001) pp. 116-117

special interest to our present study because of the distinct way in which she seeks to avoid being classified as either a dualist or a monist. As a sign of her resistance to both extreme alternatives, she calls her position 'non-reductive physicalism'.[511] Like all the truly great theorists of Anglo/American philosophy, she resolutely refuses to give up on any of the desiderata of an adequate solution. Whether her efforts have been rewarded by the production of a final solution, however, remains a question upon which not even she appears overly sanguine.[512]

As Murphy explains her own theory, the key to understanding her strategy for maintaining a physicalist position that is genuinely non-reductionist is the concept, widely discussed in modern mental philosophy, of supervenience. Unfortunately, however, the concept of supervenience is every bit as difficult to comprehend in its intricate details as is the entire problem presented by metaphysical anthropology.[513] Fortunately for our present purposes, on the other hand, the overall function of this concept in Murphy's metaphysical anthropology is relatively simple. She uses it to explain the notion of downward causation—the phenomena by which 'higher order' entities (such as minds) contribute causal features to the 'lower order' entities (such as bodies) upon which they depend.

Rather than moving straight into the arduous process of attempting to reproduce Murphy's explanation of how downward causation is meant to work, therefore, we first need to understand why it is that she believes it necessary to recognise such a form of causal interaction.

Despite the qualifier 'non-reductive' in the name of her position, in classifying her position as a form of physicalism, she accepts at least one form of reductionism. She calls this limited class of reductionism 'ontological reductionism'.[514] Simply

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[511] Non-reductive physicalism is, of course, a rather broad ideological camp of which Murphy is not the founder—though she is one of its foremost recent apologists. Furthermore, she is unquestionably the most prolific of the distinctively Christian non-reductive physicalists.

[512] She concludes one of her most recent essays with the proviso: 'I acknowledge that this paper has barely scratched the surface of the task I set for myself . . . For now, I look forward to your comments on this small piece of the puzzle.' (Murphy 2002) p. 157

[513] For a recent introduction to the concept of supervenience (in just under 400 pages), see (Kim 2002).

[514] We must be very careful not to assume that Murphy and Hasker use this language in exactly the same way. After all, we have seen that Hasker does not believe that 'ontological irreducibility' implies *substance* dualism. Murphy, on the other hand, seems to think of 'ontological reductionism' and 'substance dualism' as simple antonyms, such that the rejection of one implies the acceptance of the other and vice versa.

put, this means that she is rejecting substance dualism in favour of the idea that creation is a fundamental unity. She defines 'ontological reductionism' as the view that,

> as one goes up the hierarchy of levels, no new kinds of metaphysical 'ingredients' need be added to produce higher-level entities from lower-level ones. No additional 'vital force' or 'entelechy' is needed to produce living beings from nonliving materials; no immaterial mind or soul is needed to produce consciousness; no *Zeitgest* is needed to form individuals into a society.[515]

In calling her position non-reductive, however, she is also committing herself to the rejection of at least one specific form of reductionism. Murphy calls the kind of reductionism that she rejects 'reductive materialism'. She defines 'reductive materialism' as follows:

> A still stronger claim . . . is that the higher-level entities are nothing but the sum of their parts but adds that only the entities at the lowest level are *really* real; higher-level entities—molecules, cells, organisms—are only composites of atoms.[516]

So far, the Comprehensive Realist is in full agreement with Murphy's position. After all, as we have seen, MacKay spent his life fighting the logical fallacy he affectionately dubbed 'nothing buttery' on the one hand, while, on the other hand, he recognised that there are no valid biblical, philosophical, or scientific reasons to believe the ontological claims of substance dualism. As we come to discuss Murphy's explanation as to what is required of anyone wanting to negotiate the narrow pass between dualism and reductionism, however, we will see our first significant point of disagreement begin to emerge.

Whereas the Comprehensive Realist would point to the multiplicity of valid perspectives on the ontologically unified chain of events consistently sustained by our faithful Creator as the basis for his or her rejection of reductive materialism, Murphy insists that the only way for physicalism to be truly non-reductive is if its adherents reject a third kind of reductionism, which she calls 'causal reductionism'.

When the Comprehensive Realist is first confronted with the term 'causal reduction', it may seem as if any position named by such a term would need to be rejected. After all, if we were to deny any real causal powers to an entity, the entity itself

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[515] (Murphy 1999) p. 554

[516] (Murphy 1999) p. 554

could not truly be said to exist, for it would be a very strange kind of entity that made *absolutely* no difference in the causal nexus. It would be difficult to understand what anyone would even *mean* if they claimed that something existed, and yet had never made, and never would make *any* difference in the world. Unfortunately, however, Murphy appears to have more than this in mind when she says that causal reductionism must be rejected.

Murphy seems to believe that the only way to avoid causal reductionism is to demonstrate what she calls 'downward causation'—claiming that 'higher-order entities' enter efficaciously into the causal nexus of 'lower-order entities'. And yet, as we saw in chapter 4, this is precisely the kind of 'inter-level' causation that MacKay was so keen to avoid. While MacKay certainly acknowledged the fact that the activity of entities at one level of description (like minds) is necessarily connected to the activity of entities at another level of description (like brains)—at least to the extent that these descriptive levels apply to the very same multifaceted event—he repeatedly insisted that this necessary connection is a relationship 'more intimate than cause and effect'.[517] On the other hand, to suggest, as does Murphy, that something at one level of description (i.e. a 'higher-order' entity) *causally interacted* with something at another level (like a 'lower order entity') when those descriptions refer to *the very same multifaceted event* is to suggest (albeit in a rather strange way) that an event caused *itself.*

To be fair to Murphy, we must admit that she is not nearly as provocative in her description of downward causation as some of her predecessors. Whereas MacKay's great friend and philosophical adversary Roger Sperry used to speak of downward causation as a process by which the causal features of lower-order entities were 'overpowered' by the causal features of higher-order entities,[518] Murphy seems to prefer Donald Campbell's understanding of the term. According to Campbell, (or at least Murphy's interpretation of Campbell), downward causation is not overpowering but selective activation of lower-level causal processes.[519]

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[517] See (MacKay 1985b) p. 59 and (MacKay 1966c). See also a parallel passage on p. 63 of (MacKay 1991b).

[518] See (Sperry 1983) p. 117 and our discussion of inter-level causation in chapter 4.

[519] (Murphy 2002) p. 149

Even in this very limited sense, however, Murphy continues to insist that higher-order entities enter efficaciously into the lower-order causal nexus. While this move helps her to avoid reductive materialism, it does so only at the expense of introducing more complex (if less severe) difficulties. For example, Murphy's system leaves her with the pressing question (which forms the title of one of her most recent publications), 'How does reason get its grip on the brain?'.[520] The Comprehensive Realist, on the other hand, is left with no such paradox. If faced with such a question, MacKay would most likely have responded by saying that reason does not *need* to get a grip on our brains any more than the words that make up this sentence need to get a grip on the ink printed on this paper. We cannot deny the reality or causal efficacy of the words that make up this argument any more than we can deny the reality or causal efficacy of the ink on this paper—but that does not mean that we are obliged to say that the words and the ink causally interact with each other! Nor does it imply ontological dualism of any sort. It just means that reality (i.e. the multifaceted causal nexus of creation) can be described on many different levels. The very recognition of different levels of description, however, implies that care must be taken to keep them *indexed* when more than one level of description is under consideration. This careful indexing marks the difference between *co-ordinated* and *muddled* causal descriptions. This is the very feature of our multifaceted existence that necessitated MacKay's doctrine of complementary descriptions. We must remember, therefore, (as we saw in chapter 4), that if we are to avoid serious confusion, we must practice good semantic hygiene.[521]

D. Lynne Rudder Baker and the Constitution View

In a series of works published in the last ten years, Christian philosopher Lynne Rudder Baker has argued for yet another version of holism.[522] In one of her most concise statements of her position, which she calls 'the Constitution View', Baker says,

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[520] (Murphy 2002)

[521] For a more detailed Comprehensive Realist response to Murphy's non-reductive physicalism, see (Norman 2004).

[522] Her most complete exposition of the Constitution View was published as (Baker 2000). Of her many shorter publications, five that relate specifically to our present project are (Baker 2001b; Baker 1995; Baker 2002; Baker 2001a; Baker 1997)

> Human persons are material beings, part of the natural order. As I develop the idea of constitution, this view of human persons has the consequence that although I am both a person and an animal, I am most fundamentally a person. Hence, my persistence conditions are the persistence conditions of a person (sameness of first-person perspective), not the persistence conditions of an animal (sameness of biological organism). I could continue to exist without being an animal, but I could not continue to exist without being a person.[523]

In defining human persons in this way, she, like Murphy and MacKay before her, is attempting to take our material existence seriously without falling into the problematic assumption that human persons are entirely reducible to material bodies. So her view is like Murphy's (and MacKay's) in that it denies any form of substance dualism while simultaneously denying reductive materialism. Her view is different from Murphy's, however, in that it does not resort to inter-level causation in the effort to resist reductive materialism. Her work is especially important to the Comprehensive Realist in that she elaborates on what it means to be ontologically significant.

The first thing that we must explain in our attempt to exposit Baker's conception of ontological significance is the difference between ontological *significance* and ontological *existence*. While this distinction may seem unjustifiable at first glance, and is probably *not* a distinction that is very widely recognised, it will be necessary for our present purposes in that without such a distinction, it would be impossible to compare and contrast Murphy's and Baker's positions without equivocation. After all, whereas Murphy applies the title 'ontological reductionism' to any position that would deny substance dualism, Baker simultaneously denies substance dualism and claims that persons are 'ontologically significant'. If we are to faithfully convey the real points of difference between their respective views, we must carefully investigate the extent to which this terminological discrepancy represents a deeper rift between their positions.

In light of our discussion of Murphy's position, we may attribute some of this apparent terminological discrepancy to the fact that Murphy fails to consistently distinguish between different types of entities as they correspond to different types of descriptions. For if she had fully realised the kind of distinction that makes talk of 'downward causation' unhelpful, she may also have been more reserved than to label

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[523] (Baker 2002) p. 371

her own view 'ontological reductionism'. After all, in affirming the fact that 'higher-order' entities posses real causal features, is she not thereby affirming their real existence, denying the ontological reducibility of those entities to the 'lower-order' entities that realise them? The answer to this question, of course, depends upon the precise meanings of the terms 'ontological reduction' and 'real existence'.

Whatever we may decide with regard to Murphy's view, we should note that Lynne Rudder Baker is careful not to say that persons have 'ontological existence' despite her claim that they are 'ontologically significant'. This implicit distinction allows her to avoid the dualistic assumption that a person and a body represent two things (using the word 'things' in the same sense in both instances) while simultaneously avoiding the reductionistic assumption that only one class of things (i.e. basic-level bits of matter) are ultimately significant.

Perhaps an example would better highlight the distinction being made here. Let us suppose that an answering machine has ten messages recorded on it. How many answering machines do we have? One. How many messages do we have? Ten. So when we talk about our answering machine with ten recorded messages, how many things are we talking about? One? Ten? Eleven?

Surely the physicalist who is also an ontological reductionist would say that our example presents only one thing that has any sort of ontological significance, because there is only one *physical thing* involved in our example—the answering machine.

But if we wanted to avoid reductive materialism in this case, we would obviously want to recognise the reality of the ten messages as well as the answering machine. After all, we would want to preserve the right to say, for example, that one of the messages was garbled while the other nine were clear. In saying such a thing, we would not be simply talking about the answering machine, because answering machines are not the sort of things that *can* be garbled or clear. At most, we would want to say that such statements refer to the *activity* of the answering machine, saying that in nine cases it recorded the message properly while in one case its proper function had been somehow frustrated. But before we begin to draw too many conclusions, let us investigate this example a little further.

Suppose we were to copy the ten messages on to a tape recorder and then smash the machine to bits. We would then no longer have the answering machine, though we

would still have the messages. Likewise, we could have simply erased all the messages and left the machine intact. In that case, we would be left with the answering machine but no messages. The point is that the machine and the messages have different *persistence conditions*.

The difference in persistence conditions between different kinds of things, which we are attempting to highlight with this example, is precisely the distinction that Lynne Rudder Baker seizes upon in her attempt to tread the thin line between reductionism and dualism. To avoid tempting us into the kind of equivocation we saw in Foster's argument between concepts and objects, she resists the urge to confer independent ontological *existence* to higher-order entities. On the other hand, she recognises the reality of these higher-order entities by attributing ontological *significance* to them. In referring to the 'ontological significance' of things belonging to different natural kinds rather than to the simple 'ontological existence' of undifferentiated 'things', Baker is able to acknowledge the undeniable *reality* of both persons and bodies without resorting to a dualistic metaphysical anthropology.

This brings us to the central difference between Baker's Constitution View and the Comprehensive Realist position. Whereas MacKay simply stated the fact that mental descriptions (qua mental descriptions) must include at least some entities that are semantically unfit for physical descriptions (and visa versa), appealing to the radical difference in linguistic standpoint required to make sense of different types of descriptions, Baker attempts to offer more detail, explaining what it means for such different kinds of entities to be constituted by the very same substance. In short, she has taken up the challenge of explaining the precise nature of the relationship which MacKay simply described as 'more intimate than cause and effect'.[524] In a statement that particularly highlights her contribution to our discussion of Comprehensive Realism, Baker says:

> The aim of my conception of constitution is to make sense of a relation more intimate than separate existence, but still not identity. I take identity to be necessary or strict identity: If (x = y), then necessarily (x = y). Many philosophers think that if x and y are not identical, then they are just two different things, like the sun and the moon. The notion of Constitution offers a third position, a position intermediate between identity and separate existence. (Say that x and

[524] See (MacKay 1985b) p. 59 and (MacKay 1966c). See also a parallel passage on p. 63 of (MacKay 1991b).

> y have separate existence at t if and only if there is no property F such that x and y are the same F at t.) For any x and y, there are three (not two) possibilities: strict identity, constitution, and separate existence . . . Thus, any criticism of my view that presupposes that non-identity entails separate existence begs the question against my view.[525]

Those familiar with the history of the mind/body debate may recognise a certain similarity between Baker's Constitution View and the kind of identity theory initially suggested by U. T. Place in his influential paper, 'Is Consciousness a Brain Process'.[526] In that paper, Place attempted to distinguish between the 'is' of definition, which indicates a necessary identity (as in the statement 'a bachelor is an unmarried man'), and the 'is' of composition, which indicates an identity that is logically contingent (as in the statement 'his table is an old packing case'). Though the end results of their arguments are considerably different, this kind of contingent identity is clearly what Baker has in mind when she speaks of the constitution relation. Just as a table may be constituted by an old packing case, Baker says that a person is constituted by a human animal. We do not have to say that our concept of 'table' must be reduced to our concept of 'packing case' in order to say that Place's table and his old packing case are *the same thing* any more than we must reduce persons to the bodies that constitute them in order to say that substance dualism has been successfully avoided. This seems to be the idea that Baker has in mind when she says:

> Again, the opponents of constitution seem to think that if *x* constitutes *y* at *t*, then *x* and *y* are two things that remarkably happen to coincide spatially—as if a constituted thing were separate from or independent of what constitutes it. But that is not the idea of constitution-without-identity at all. What stands before you when your spouse comes into the room is not a pair consisting of a person and an 'associated' animal; it is a person constituted by an animal. A person and the constituting animal are not two separate beings. When your body hurts, you hurt. It is a complete misinterpretation of the Constitution View (at least my version of it) to treat a person and her body as separate things. The constituting animal is no more separate from the person than the constituting piece of marble is separate from *David*.[527]

And so we see that the position defended by Baker is very similar to the one defended by MacKay. The biggest difference between Baker and MacKay with

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[525] (Baker 2002) p. 377

[526] (Place 1956) see our brief discussion of the paper in chapter 2.

[527] (Baker 2000) pp. 199-200

regard to the issues that we have been discussing is that Baker attempts to provide considerably more metaphysical detail. As our discussion moves beyond the process of expositing and evaluating recently defended general theories of metaphysical anthropology, however, we will see a bit more of the difference between Baker's and MacKay's positions.

II. Holism and the Resurrection of the Body

As we saw in chapter 6, one of the most difficult questions faced by non-dualist Christian philosophers interested in metaphysical anthropology is the question of how we may reasonably hope for life beyond the grave. This is the kind of question that, as we saw in chapter 1, led Thomas Aquinas to argue for the immortality of the soul despite his conclusion from 1 Corinthians 15 that 'my soul is not I'. This is also the question that led D. Z. Phillips, as we saw in chapter 6, to conclude that we need to re-think our concept of eternal life. In this section, we will discuss a few of the most recent non-dualist Christian responses to this vexing question.

A. Lynne Rudder Baker and the First-Person Perspective

We have just seen that Lynne Rudder Baker attempted to offer more metaphysical detail than did MacKay regarding what it means for one kind of entity to be constituted by another in such a way that they have independent ontological significance without unduly multiplying the number of created substances. Another point of agreement between Baker and MacKay is that they both believed that, although substance dualism *is* logically possible, it is *not* a metaphysical anthropology that is necessarily implied by Christianity. They both argued that since Christianity does not directly imply substance dualism, and there are no absolutely convincing scientific or philosophical arguments for substance dualism, Christians ought not believe in substance dualism.[528]

Also like MacKay, Baker gives the distinction between third-person and first-person perspectives an important place in her overall metaphysical anthropology. Baker *defines* a person as a thing with a first-person perspective. It is no surprise, therefore, that the idea of the first-person perspective plays very heavily into her explanation of personal identity through time. Though she admits that her criterion for personal

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[528] c.f. (Baker 1995)and (MacKay 1991a) (especially notes 1 and 3 to chapter 12)

identity (sameness of first-person perspective) is somewhat circular, she also argues that her definition is much more informative than many other non-dualist definitions.

In her recent article, 'Material Persons and the Doctrine of Resurrection', Baker says that, 'Although no conditions for sameness of first-person perspective over time will be forthcoming, if I exist at some future time, I shall know it.'[529] Lest we be left wanting after such a seemingly unsophisticated and dogmatic faith in our future understanding, she goes on to explain how her first-person perspective criterion for personal identity can help the materialist to deal with at least one notoriously difficult thought experiment. She says:

> Suppose that a mad scientist managed to duplicate me overnight using a brain-state transfer device, and that he cleverly fashioned bodies, so that now there are 100 physical and psychological replicas of me—each sincerely claiming to be Lynne Baker, each reporting past events that only I knew about before I was duplicated, each looking just like me. Notice that the Constitution View, unlike other materialistic views, does not have the untenable consequence that they are all Lynne Baker. All 100 of the duplicates are psychologically continuous with me when I went to bed, but the Constitution View does not hold that psychological continuity is sufficient for personal identity over time. What is required is sameness of first-person perspective. The 100 duplicates all have different first-person perspectives—even if each of the first-person perspectives is "qualitatively indistinguishable" from mine . . . The fact that each claims to be Lynne Baker, and the fact that each has apparent memories qualitatively similar to Lynne Baker's, and the fact that each looks like Lynne Baker are all irrelevant to whether any of them is actually Lynne Baker. At most, one of them can have my first-person perspective.[530]

The first point that she draws from this example is that her view, unlike many other materialist views, allows her to say that there *is* a fact of the matter as to which of the imaginary 101 look a likes *she* is. Despite the fact that the 100 replicas are exactly similar to her, from the point of separation, they all have different first-person perspectives and are therefore different people. Furthermore, even in such a bizarre situation, Baker would know for certain which of the look a likes is she—for she cannot doubt the legitimacy of her own first-person perspective.

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[529] (Baker 2001a) p. 160

[530] (Baker 2001a) p. 161

The second point she draws from this thought experiment is that because each of the look a likes has a different first-person perspective, there can be one and only one look a like that is the same person as the pre-replicated Lynne Baker. Whether or not it would be possible for anyone to *know* which look a like is the 'real' Lynne Baker does not ultimately matter; either way there is one and only one Lynne Baker, and there is a fact of the matter as to which of the different people who think they are Lynne Baker is right and which are wrong.

These observations concerning this bizarre yet common thought experiment allow Baker to demonstrate that the Constitution View is *more* compatible with traditional Christian individual eschatology than either dualism or reductionism. Whereas dualism's emphasis on the immortal soul makes the resurrection of the body more or less irrelevant to personal survival, the Constitution View accounts for all the reasons Christians may have for positing an immortal soul while simultaneously maintaining a proper emphasis on bodily resurrection.[531] On the other hand, by equating the persistence conditions for personhood with the persistence conditions for any given first-person perspective, the Constitution View also gets around the problems associated with Christian Materialism regarding the material or biological continuity between a person who dies and a person who is resurrected thousands of years later.

The only question that remains for the adherent to the Constitution View is how to make sense of individual eschatology from the third-person perspective. After all, if we abandon the apparently over-strict conditions for material or biological continuity, how are we to explain what we mean when we say that *our* bodies will be raised? More to the point, how are we to get around the seemingly unavoidable spatio-temporal gap that separates our present embodiments from the embodiments we will enjoy in the world to come?

We could attempt to bridge the temporal gap by positing an intermediate state between death and resurrection. After all, Baker points out[532] that her view is compatible with belief in an intermediate state as long as some form of intermediate embodiment is provided. But given the fact that *every* time a person dies, we can observe that the body which is spatially continuous with the once-living body is

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[531] Not to mention the fact that the Constitution View achieves all of this without having to resort to ghost stories.

[532] (Baker 2001a) p.162

subject to intense corruption and even dissipation, how are we to explain away the spatial gap between the dying body and the intermediate embodiment?

Baker also notes[533] that her view is compatible with the positions of those thinkers who would explain away the spatial gap by positing a temporal gap instead. One could say, for example, that a rotting corpse signifies *not* that the person is off in some other realm, perhaps inhabiting a new body, but the person is, in fact, dead. Under this interpretation, the Christian would say that a dead person simply does not *exist* between death and resurrection—in much the same way that a person does not exist between the creation of the universe and that person's conception. Posting a temporal rather than a spatial gap would mean that a dead person resumes his or her existence when the relevant physical body is re-integrated and transformed at the resurrection. The problem with this position, however, is that it would seem just as impossible to maintain personal identity across a temporal gap as it would be across a spatial one. After all, if an ancient bronze statue melted into a shapeless lump during a fire, we could not merely re-shape it and tell everyone that we had preserved the original, ancient statue. The ancient statue would have been destroyed in the fire. All we would have done is to make a replica out of a very old piece of bronze.

Baker, like many before her, attempts to get around all these problems associated with the spatio-temporal gap by simply stating that individual eschatology always requires a miracle anyway, so we should simply say that it is God who spans the gap in our personal existence. But is there not more that could be said concerning how such a miracle would go? It may well be that the Comprehensive Realist position has something more to offer here, but before we work out the finer points of such a view, we need to say a little more about the nature of personal identity. In particular, we need to investigate the notion from a third-person perspective.

B. Kevin Corcoran and the Third-person Perspective

To understand the nature of personal identity from a third-person perspective, we need to look more closely at the concept of immanent causation. Of all the Christian philosophers who have attempted in recent years to tackle the problem of personal identity and individual eschatology, the one who takes the question of immanent

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[533] (Baker 2001a) p.162

causation most seriously is Kevin Corcoran.[534] While Corcoran considers himself an advocate of the Constitution View, he differs from Baker in that he thinks constituted entities and the entities that constitute them are two different physical objects that completely fill exactly the same physical space. Though this is not the proper venue for a full exposition of his view, it may be interesting to note that his curious version of the Constitution View also leads him to a very strange conception of death. He explains this strange conception of death in the following way:

> It seems possible that the causal paths traced by the simples caught up in the life of my body just before death can be made by God to fission such that the simples composing my body then are causally related to two different, spatially segregated sets of simples. One of the two sets of simples would immediately cease to constitute a life and come instead to compose a corpse, while the other would either continue to constitute a body in heaven or continue to constitute a body in some intermediate state. In other words, the set of simples along one of the branching paths at the instant after fission fails to perpetuate a life while the other set of simples along the other branch does continue to perpetuate a life. If this is at least possible, as it seems to be, then we have a view of survival compatible with the joint theses that human persons are essentially physical objects and that such objects cannot enjoy gappy existence.[535]

The end result of all this, of course, is that Corcoran's Constitution View has at least this much in common with substance dualism: under both views, human beings are immortal. Whereas the substance dualist admits that human bodies die, however, saying that it is the soul that is truly immortal, Corcoran is much more subtle. He admits that it is possible for the fissionary partner of a living human body to die, but suggests that in such cases it is safe to believe that for every human body that has ever lived, there is at least one human body that has never died—and that every human body that has ever lived can be *identified* with an immortal human body.

While these uncommon aspects of Corcoran's view are so radical that we need not discuss them any further, one feature of his view that is very relevant to our present study is his motivation for developing such a radical position.[536] His motivation is

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[534] For a fuller discussion of the nature of immanent causation, see (Zimmerman 1997). In this section, however, we will be concerned only with this idea as it relates to personal identity and individual eschatology, so we will discuss Zimmerman's ideas only as they have been employed by Kevin Corcoran.

[535] (Corcoran 2001) p.210

[536] Even while calling Corcoran's position radical, however, it is important that we note the fact that his views are *not* unprecedented. It should be clear from our discussion in chapter 6 that his position

simply that he appreciates the importance of the intricate relationship between our physical and mental lives.

Though his reasoning is considerably different from MacKay's, his conclusion, emphasising the importance of the precise causal properties of our present embodiment for any future embodiment that can be identified as *us*, is very similar to the conclusion MacKay came to at the close of his career (as we saw in chapter 6). What Corcoran's work adds to Baker's contribution is a description of individual eschatology from a third-person perspective. According to Baker, for a resurrected person (RP) to be the same person as a person who died a thousand years earlier (DP), RP must have one and the same first-person perspective as DP. But what is the relationship between the body(s?) that constitute RP and DP? Whereas Baker does not seem to place any value in such a third-person question, Corcoran (like the later MacKay) points out that the relationship between RP's body and DP's body is *not* trivial.

Lest we think that this observation is not important to Christian eschatology, we should consider the importance of the empty tomb in the Gospel accounts of Jesus' resurrection. After all, if it weren't for the nail scars in the hands of Jesus' resurrected body, at least one of the apostles would not have believed that the resurrected Jesus and the Jesus who died for our sins were one and the same *person.*[537] As we saw in chapter 6, if our hope for eternal life lies in our union with Christ in his death and bodily resurrection, then it is be safe to say that the relationship between our present embodiments and our resurrection bodies will be similar to the relationship between crucified body of Christ and his resurrected body. Similarly, as MacKay pointed out, if our present first-person perspectives are intricately tied up with (in a relationship 'more intimate than cause and effect') what we now (from a third-person perspective) call 'our bodies', we have no reason to believe that such a relationship will not continue into the resurrection world. But as Corcoran observes, if we are to say that our resurrected bodies will be the same bodies as the ones that now embody us, they must be connected by chains of immanent causation.

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has strong similarities to those of both Peter van Inwagen and the early John Hick (cf. (Hick 1960) and (Van Inwagen 1978)).

[537] cf. John 20:25-28

Corcoran emphasises the importance of this causal connection with the following critique of the spatio-temporal criterion for identity:

> What is absent in the simple spatiotemporal continuity criterion of persistence is any mention of *causation*. Yet surely, if the mug on the table in front of me has persisted into the present, then its existence in the immediate past must be causally relevant to its existence now. So too with human bodies. If the human body sitting across the table from me at 12:59 p.m. is not causally connected with the one across from me at 11:58 a.m., then it is plausible to think that the human body across the table from me at 12:59 p.m. is not a continuation of the body that was there at 11:58 a.m., but rather is a replacement.
>
> Causal considerations, therefore, seem especially pertinent to the giving of persistence conditions for material objects of any sort.[538]

This kind of reasoning leads him to assert that the necessary and sufficient persistence conditions for a human person can be stated as follows: 'A person persists, therefore, just in case her physical organism persists and preserves a capacity to subserve a range of intentional states.'[539]

The most obvious problem for Corcoran, then, is that for a resurrected person to be the same as a person who once died, we must be able to explain how immanent causation can be maintained across a spatio-temporal gap. This is the problem that leads Corcoran to his radical conception of individual eschatology—saying that dying bodies are fissioned and all of that. Unfortunately, however, the Gospel accounts of Jesus' empty tomb present even more problems for Corcoran's radical understanding of death than it would for a simple materialist. After all, if Jesus really died, Corcoran would say that his body was fissioned. In this case, the empty tomb would suggest *not* that the one and only Jesus Christ had died and subsequently arisen, but that, if the body that was laid in the tomb now lives, there are now two living Jesus Christs! The only other reasonable interpretation of the empty tomb would be that either the irrelevant fissionary partner had been stolen or destroyed, or that Jesus had never really died (and thus had never really been fissioned). As we hinted at the close of our last section, however, it may well be that Comprehensive Realism, with its strong grounding in the concept of logical complementarity, can offer a simpler resolution to this admittedly difficult problem.

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[538] (Corcoran 1999) pp. 4-5

[539] (Corcoran 1999) p. 6

C. Comprehensive Realism and the Second-person Perspective

Whereas Baker emphasised the importance of the first-person perspective as a criterion for personal identity and Corcoran pointed out the need for us to take seriously the third-person causal story linking our present embodiment to our embodiment in the world to come, MacKay's unique contribution to this discussion stems from his insistence that as Christians, we must treat the second-person perspective as the perspective that commands ultimate epistemic authority. In saying this, we are, of course, speaking somewhat metaphorically of the second-person perspective, drawing on the 'I-Thou' distinction employed by Martin Buber and others. As we saw in Chapter 6, MacKay was adamant about the fact that God's sovereign will is the one and only ultimately objective epistemic ground. As he related this fact to individual eschatology in his final Gifford Lecture:

> . . . once you take seriously the claim of theism that there is nothing in our space-time apart from the creative say-so of the Author who gives being to the events in which it has its being, then I think it is clear that it would be for the Author to stipulate the identity of a resurrected body . . .[540]

But MacKay's complementarity based worldview leaves us with much more to say on this issue. For recognising the primacy of the second-person perspective allows us to better understand the limitations of our first and third-person perspectives.

Up to this point, we have spoken of the first-person, second-person and third-person perspectives for the sake of simplicity. Perhaps the metaphysical implications of our present discussion would be better highlighted, however, if we were to adopt terminology better suited to the scale of our subject. After all, we are not speaking of the first-person, second-person and third-person perspectives in the easily exchangeable sort of way in which we normally use grammatical perspectives. Nothing of very great metaphysical import, for example, hinges on the different perspectives expressed in the sentences: 'I went to the store.', 'You went to the store.', and 'We went to the store.'. If we were to apply the predicate 'am the ultimate authority in the Universe', rather than 'went to the store', however, things would look quite different—and, as we shall soon see, this difference does not merely consist in the difference between blasphemy (of the individual or corporate variety) and religious confession.

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[540] (MacKay 1991b) p. 269

1. Distinguishing Between Temporal Perspectives

Since we are speaking of three different *general* perspectives rather than simply three different perspectives on any given isolated event, it will, perhaps, be clearer to speak of 'temporal perspectives' or 'versions of time' rather than simple first-person, second-person and third-person perspectives. We will call these versions of time 'time-for-me', 'time-for-God', and 'time-for-us'.

Though this is not the proper place for a full discussion of the nature of time (as if there could be such a thing as a 'full discussion of the nature of time'!), we do need to make a few brief observations regarding the nature of 'time-for-me', 'time-for-God' and 'time-for-us', as well as the relationships that obtain between them.

As we have seen, according to Christianity, God's sovereign will is the ultimate arbiter of all truth. The ultimate temporal perspective, therefore, is time-for-God. That is just to say that time-for-God represents the only truly objective reference-point, completely untainted by any of the fallibility characteristic of human subjectivity.

As we saw in chapter 6, MacKay was keen to point out that the only portion of time-for-God that we as his creatures can ever know is that portion which God sees fit to reveal to us. Because time-for-God is the ultimate standard, therefore, *any* genuine creaturely knowledge can be understood as a revelatory overlap between time-for-God and time-for-us or time-for-me. This is why Christian epistemologists often describe our search for truth as the effort to 'think God's thoughts after him'.[541]

Time-for-us, on the other hand, is the shared, corporate experience (or 'inter-subjectivity') we call 'objective history'. According to Christianity, there is no time-for-us separate from time-for-God because all individuals participating in time-for-us are utterly dependent creatures. Time-for-God, however, extends both qualitatively and quantitatively beyond time-for-us.

Finally, time-for-me is the relationship between an individual and everything with which that individual causally interacts. Since it does not appear to be possible for a self to be maintained in the absence of any other, time-for-me is not independent from time-for-us or time-for-God, though each individual has a unique time-for-me

[541] Though this phrase is popularly credited to Johannes Kepler (1571-1630), its original source is questionable.

due (in part) to the fact that each of us has a unique pattern of interaction with time-for-us and time-for-God.

When we say that time-for-me is simply the history of an individual's relationship with the rest of the world, it may seem as if time-for-me is simply a unique *description* of time-for-us. After all, time-for-us is the shared history of the entire created causal nexus. On closer analysis, however, this is not revealed to be the case.

Though we cannot delve into too much detail here, we should note that this collapse of time-for-me into time-for-us was more or less taken for granted in the history of thought before Einstein pointed out the fact that there is an absolute maximum speed. Because there is an absolute maximum speed, however, relationships between creatures cannot be properly understood as instantaneous—thus our necessarily distinct perspectives on public space require at least some differentiation from our distinct perspectives on public time. The end result of all this is that not all relationships between different time-for-me's and the shared time-for-us are exactly similar. For example, if a person were to take a long, fast, round-trip journey, the trip would take less of that person's time-for-me than our time-for-us.

Recognising these important though often overlooked distinctions between the different ways in which it is common to talk about time allows us to dismiss several of the most important pseudo-problems that often worry Christian philosophers. Perhaps the most important of these pseudo-problems is the spatio-temporal gap.

2. Comprehensive Realism and the Spatio-temporal Gap

Of the many things we could say about how Comprehensive Realism explains the spatio-temporal gap between death and resurrection, the most basic is that the very idea of a literal spatio-temporal gap is misconceived. After all, as we have just discussed, time is not a substance. Time is merely a way of talking about relationships—a way of describing a causal nexus. When we speak of 'breaks' or 'holes' in time, therefore, we must remember that we can only be speaking metaphorically. Though this is a relatively simple point, it is often overlooked. For this reason it may be necessary to offer a little more in the way of explanation as to what we mean when we say that time is not the sort of thing that can have gaps.

Perhaps this point will be best explained by clarifying what is meant when we say that time is not a substance. Just as when I put the cap on my pen I have not created

a third object (namely the *fit* between the cap and the pen), we must understand that when a new subject enters our shared causal nexus (i.e. when a new time-for-me begins to overlap with time-for-us) God did not have to create, in addition to the new subject, a new time-for-me. Similarly, when God first created the universe, he did not have to create, in addition to individual creatures, a space-time continuum. Just as a 'fit' is nothing above and beyond the relation of one object to another, time is nothing above and beyond the history of such relations. Furthermore, just as there is no *fit* when we have only the pen or the cap in isolation, there is no relationship (no *time)* without at least two distinct things to relate to one another.

Any objection on the basis of a supposed 'temporal gap' to the Christian assertion that it is possible for a person to die at one point in time-for-us and be resurrected thousands of years later (in time-for-us) would therefore rely on a crucial fallacy. After all, where is the gap? The gap is not in that person's time-for-me, because time-for-me is by definition the history of the relationship between a person and the world. If there is no *person* between death and resurrection to relate to the world, we can not say that there is a hole or a gap in that person's time-for-me.

Perhaps, however, we may be tempted to say that it is precisely this lack of a person's time-for-me overlapping with the time-for-us that separates that person's death and resurrection that constitutes the problem we are referring to when we speak of 'a temporal gap'. This may be a reasonable way to think of the situation often referred to as a 'temporal gap', but before we jump to any conclusions, we need to be careful to consider what does and does not follow from such a view.

First of all, we must understand that calling this situation 'a temporal gap' is a misnomer, for interpreting death and resurrection in the way we have just suggested does *not* posit anything so contradictory as a gap or hole in the fabric of time. This example does not, therefore, constitute the kind of absurdity that would indicate a logical flaw. The *apparent* temporal gap implied by such an understanding results from a sort of equivocation. Once we clear up this equivocation, we will see that, contrary to many historically popular assertions, Christian individual eschatology does not imply a hole, gap, 'limbo state' or anything of the sort within either time-for-me or time-for-us.

As with any logical mistake, the simplest way to avoid the kind of equivocation to which we are referring is to get clear on how the mistake is normally made in the

first place. With regard to death and resurrection, the easiest way for us to mistakenly fall into believing that a genuine temporal gap has occurred is to think of the situation as follows. We begin by thinking of a time-for-us with which a specific time-for-me overlaps. We then come to recognise that this time-for-us of which we began thinking progresses to a point with which the time-for-me in question ceases to overlap. Then, forgetting that we had been thinking strictly in terms of time-for-us, we begin to assume that since we are now thinking of a time in which the person in question does not exist, we must be thinking of a *time-for-me* in which the relevant person does not exist. Once we remember that it can only be time-for-us that does not include the relevant person, however, we can easily see that the scenario we have been imagining does not include any *gaps* in either time-for-me *or* time-for-us. All that our scenario implies is that there is not a one-to-one correlation between time-for-me and time-for-us—and we have already secured the soundness of this implication by our need to distinguish between time-for-us and time-for-me in the first place.

Even if we properly sort our statements for proper temporal perspective, however, avoiding the kind of equivocation that implies a temporal gap, some may argue that there is still logical difficulty in the neighbourhood. Some would say, for example, that one generally recognised feature of time-for-us is that an object can come into being only once.[542] Although this assertion has a great deal of intuitive appeal, the degree to which it precludes the Comprehensive Realist interpretation of death and resurrection is proportional to the degree in which it is interpreted in a question-begging manner. After all, if we are to accept this assertion *only* in its most intuitive form (i.e. 'an object can make its *initial* entry into time-for-us only once'), it presents absolutely no problem to the Comprehensive Realist. If, on the other hand, we are to interpret this assertion as a claim that if there exists some time-for-us which overlaps with a given time-for-me, that specific time-for-me depends for its very existence on a continuing one-to-one relationship with every subsequent time-for-us, the assertion not only loses some of its intuitive appeal, but also begs the question against a Comprehensive Realist (or, indeed, any post-Einstein) interpretation of time.

Doubtless, some would not be bothered by the fact that this second interpretation begs the question against Comprehensive Realism. After all, it is clear that different

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[542] Stephen T. Davis (Davis 2001) p. 234 attributes this position to Thomas Reid.

philosophers often have different intuitions concerning such 'generally recognised' features of the world. It is important for our present purposes to recognise, however, that we are dealing (at least in this case) with slightly more than a mere difference in intuitions—for this difference in intuitions is most likely grounded in a difference in epistemic loyalty. After all, this counter-assertion to the Comprehensive Realist position suggests that the identity of an individual depends on its being sustained in the spatio-temporal community of our creaturely causal nexus. The Comprehensive Realist, on the other hand, places ultimate epistemic loyalty in the will of God. For the Comprehensive Realist, therefore, the inter-subjectivity of time-for-us is not the ultimate source of hope for continued personal existence. The Comprehensive Realist has a hope that extends beyond the day-to-day persistence of created objects, for the Comprehensive Realist's ultimate epistemic loyalty is to time-for-God.

And so we see that differentiating between time-for-me, time-for-God and time-for-us reveals what we have been calling 'the problem of the spatio-temporal gap' to be nothing more than a pseudo-problem. There are, however, still several questions that remain outstanding. Perhaps the most difficult of these questions is how a specific time-for-me can become disentangled from one time-for-us and, without any intervening time-for-me, come to overlap another time-for-us thousands of years in the future-for-us. Though the implication of appeals to God's miraculous power (such as we saw in Lynne Rudder Baker's account) is that whether or not we can make sense of death and resurrection from the perspective of time-for-us, it is ultimately only time-for-God and time-for-me that matter, it may still be that Comprehensive Realism has something more to offer. As we attempt a fuller explanation of bodily resurrection and personal identity, integrating all three of the temporal perspectives we have been taking special care to distinguish, we will need to follow Corcoran's suggestion, paying special attention to the relationship between identity through time and the need to sustain a unique, characteristic set causal features.

3. Comprehensive Realism and the Nature of Causal Descriptions

Another implication of MacKay's assertion that the regularity of the created order is best characterised as dynamic rather than static stability is that God must continually sustain every relationship between the various particulars of creation. If we are to

take this implication seriously, we must recognise that God not only sustains every created object, but he also structures every feature of the universal causal nexus.

Recognising this feature of creation allows us to view the nature of causation in a distinctly theistic way. With particular regard to our present project, it allows us to see that the distinctive causal features characterising our multifaceted physical, mental, and spiritual lives are viewed most objectively *not* from the perspective of time-for-us. After all, the closest thing to objectivity time-for-us has to offer is the inter-subjectivity of majority opinion. However incomplete may be our best attempts to understand our selves from the perspective of time-for-God, we must recognise that this perspective offers the ultimate epistemic vantage point. For, as the ancients said, 'In Him we live and move and have our being'.[543] Once this point is understood, we see that, unlike Baker and others, MacKay is not appealing to the blind faith of Christian believers when he says that it is ultimately up to the Author of creation whether or not any individual is to live again after their bodies see intense corruption. He is, rather, appealing to the only standard that ultimately matters. Perhaps this point will be better clarified if we relate it to the kind of causal account of personal identity called for by Corcoran.

Though we have already said that Corcoran may be asking for us to believe too much when he says that upon death God fissions our bodies in such a way that we continue to exist in heaven or some intermediate state even as our fissionary partners see corruption here on earth, his account is not altogether different from what the Comprehensive Realist might say. Instead of appealing to fission and our continued bodily existence throughout the time-for-us separating our death and our bodily resurrection at the end of the present created order, however, the Comprehensive Realist might say that God, as the ultimate structuring cause of all that exists, forms each chain of immanent causation relating to time-for-me in such a way that each of our time-for-me's flow seamlessly and immediately from our death at one point in time-for-us to our resurrection at another (possibly much later) point in time-for-us.

As Corcoran rightly pointed out, saying that upon death God structures a causal chain for me that is distinct from the normal causal nexus of the community I used to live in does not necessary imply that I exist outside of time-for-all-living-human-

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[543] Acts 17:28a

beings. The primary difference between Corcoran's radical suggestion and the Comprehensive Realist position, however, is that whereas Corcoran suggests a somewhat counter-intuitive personal history in an effort to preserve as close to a one-to-one relationship as possible between time-for-me and time-for-us, the Comprehensive Realist makes no such effort to force a relationship that does not appear to obtain on its own. While both positions hold causal histories in high regard, the Comprehensive Realist looks to time-for-God rather than time-for-us as the ground of our immanent causal histories.

The Comprehensive Realist understanding of complementary temporal descriptions, therefore, allows us to understand death and bodily resurrection as literal, historical events—just as we are led to believe by the example of Christ's death and resurrection. Furthermore, it does not require us to believe in any sort of waiting period (from the perspective of time-for-me) between our death and resurrection, allowing us to understand Christ's statement to the thief on the cross ('Today you will be with me in Paradise')[544] without positing any heavenly existence beyond the heavenly existence promised to us in Scripture (i.e. the New Earth in which heaven and earth are intertwined).[545]

Though this way of understanding the intermittent overlap between time-for-us and time-for-me may seem radical in its own right, it is important for us to remember that our bodily resurrection will not be the first occurrence of this phenomenon. After all, as we have already suggested, post-Einsteinian physicists have demonstrated that something very similar would happen if we were ever to go on a long, round-trip journey on which we travelled very fast. In fact, something like this (but on a *much* smaller scale) happens every time we travel at all.

But the case of our death and bodily resurrection still presents us with at least one unique feature. For after a human being dies, the causal community with which that person's immanent-causal chain had been intertwined throughout life continues to include a physical object—a corpse—which, up until that person's death, had been the objective complement of all subject-oriented descriptions of that person. Yet that object no longer has any valid I-story to tell. The I-story that used to be valid for it has been grafted into the future.

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[544] Luke 23:43

[545] cf. (Wright 1999)

Yet this is not the only feature of the Comprehensive Realist individual eschatology that is unprecedented at the present time-for-us. After all, whereas the O-story complement of all valid I-stories we have encountered up until this point in time-for-us have related to mortal bodies made of the cursed dust of this fallen world, the O-story complements of our I-stories once they have been grafted into the future will (according to Scripture) relate to imperishable bodies. Furthermore, as John Baillie commented in the selection we quoted in chapter 6, the imperishable bodies with which our future I-stories will be correlated must be suited to the wonderful life God has promised us in the New Earth. So, presumably, these incorruptible bodies will be made not of the cursed dust of the present cosmos, but of the redeemed matter characteristic of the New Earth, intricately bound up in the New Heaven and full of the radiance of our Saviour's glory.

While it may be true that such a literally conceived individual eschatology suggests the occurrence of many events that will be, up until the time-for-us in which they occur, wholly unprecedented, that does not put it beyond the reach of a philosophically sound Christian hope. After all, our Christian hope is not grounded in the precedents established in time-for-us. As MacKay would have us remember, the only perspective from which ultimate stability can be comprehended is time-for-God. And we as Christians are heirs to the hope that God will preserve us for himself—mind, body, and soul—up until that final, glorious day. May it come quickly!

Conclusion

In this thesis we have attempted to explain the philosophical and theological contributions of Donald M. MacKay as they relate to the mind/body problem—especially as this problem relates to the contemporary evangelical Christian Church.

After introducing the mind/body problem as it relates to the contemporary evangelical Christian Church in chapter 1 and the career of Donald MacKay as it relates to the mind/body problem in chapter 2, we proceeded to explain MacKay's metaphysical anthropology.

The key to understanding MacKay's metaphysical anthropology is his understanding of logical complementarity. Accordingly, we devoted chapter 3 to the task of expositing his work in that area before proceeding, in chapter 4, to explain in more detail how this understanding related to the mind/body problem. We saw in chapter 4 that MacKay's understanding of logical complementarity allowed him to say that human beings are multi-faceted creatures—creatures that may be meaningfully described in many different kinds of ways. Most significantly, MacKay argued that although mental descriptions and physical descriptions necessitate radically different *standpoints*, they do *not* necessitate substantially different subjects.

In saying that mental descriptions and physical descriptions can apply to human beings with equal validity, however, he raised the following objections from other evangelicals: 1) If physical descriptions *really* apply to *me* in the same way that mental descriptions do, and the subjects of physical descriptions must always obey the mechanical laws of cause and effect, how can *I* be said to be *free*? And 2) If mental descriptions and physical descriptions really apply to the same 'me', how can I reasonably hope for mental life after my body dies?

Since MacKay dealt with this first objection rather extensively and consistently throughout his academic life, Chapter 5 was devoted to explaining and evaluating his response.

With regard to the second objection, however, MacKay seems to have altered his position somewhat in the final years of his career. Since this alteration in his position may have been at least partly due to the complexity of related theological issues, we spent the first half of chapter 6 explaining these complex issues by investigating the related controversies in biblical, philosophical, and systematic

theology during MacKay's lifetime. In the second half of chapter 6, we explained the shift in MacKay's position relative to this second objection as it relates to these theological controversies.

Unfortunately, MacKay's career came to an early end. In the years since his death, several Christian philosophers have begun to address the relationship between metaphysical anthropology and individual eschatology in much greater detail. In our seventh and final chapter, therefore, we have examined and evaluated the work of some of these Christian philosophers in the light of MacKay's unique contribution. Since MacKay is no longer around to address these issues in person, it was in this final chapter that it has been necessary for us to move beyond a mere exposition of MacKay's writings, into a fuller Comprehensive Realist response than he was able to give. It is hoped that our attempt at applying the logic of complementary descriptions to the unique problems presented by a detailed individual eschatology will form an additional contribution to the substantial project begun by MacKay to form a complete metaphysical anthropology that is consistent with the central teachings of the contemporary evangelical Christian church.

Although we have attempted in this thesis to systematically exposit all of the most important features of MacKay's Comprehensive Realism, there is much more work that needs to be done. Not only could considerably more space be profitably devoted to the further exposition of the specific issues raised in each of our chapters, but more work is also called for along tangential lines.

For example, biblical theologians might profitably follow up the present work with a fuller exposition of the relevant biblical texts. While several prominent biblical theologians[546] have already been immensely successful in developing fuller and richer holistic readings of biblical texts that have been traditionally thought to support anthropological dualism, it is considered highly probable that MacKay's contributions to philosophical theology will add further momentum to this already growing trend.[547]

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[546] N. T. Wright and Joel Green, most notably

[547] It may be of interest to note in this context that in the concluding paragraph of Joel Green's most recent publication expositing the biblical basis for anthropological holism, he remarks, 'Questions remain, of course. One of the more important has to do with the nature of space and time, and specifically with the relation of time and eternity. A further, perhaps more urgent issue concerns the bridge by which human identity crosses from this life into the next. (Green 2002) p. 50

On the other hand, Comprehensive Realism also presents Christian ethicists with a clear, biblical perspective from which to address the legion of questions that have arisen in the field of medical ethics in recent years. Questions over the ethical status of abortion, euthanasia, human cloning, and genome patents, and even older questions regarding the ethical grounds for cremation and the rejection of cannibalism all cry out for a well-grounded metaphysical anthropology. After all, Christian Ethicists have struggled for years with the tension between a metaphysical anthropology that says that it is only our rational, immaterial souls that bear the divine image on the one hand, and the intuitive knowledge that even the very young, old, and mentally handicapped (and even *dead*) of our species deserve more respect than other, lesser, life-forms. Once we begin to understand that Comprehensive Realism offers a more biblically and philosophically sound metaphysical anthropology than the substance dualism to which the evangelical church has been wedded since the early scientific revolution, we may begin to understand why so many of our ethical intuitions, steeped in right religious fervour as they are, so often run counter to the philosophical implications of our mistakenly dualistic anthropology.

These are but a few of the many directions the research presented in this thesis may be taken in the future. Although it seems fitting to recite MacKay's favourite motto in this context ('When short of data, keep mind open and mouth shut.'),[548] it may also be that the time has come to assert its converse. After all, when the open mind reflects upon a rising tide of data, there comes a time when silence is no longer appropriate. And so we close with another familiar motto: *Semper Reformanda*.

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[548] (MacKay 1980a) p. 65

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