DIVINE VERSUS HUMAN CHOICES:

Relieving the Tension with some Choice Theory

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1. Introduction

> *Most of economics can be summarized in four words: 'People respond to incentives.' The rest is commentary.*

So begins Steven Landsburg's *The Armchair Economist*.[2] What this opening quotation reveals is that, for many economists, at the heart of most economic analysis lies a deceptively simple model of human behaviour. In this study we shall call it the 'Standard Choice Model', or SCM for short. The standard choice model is a way of saying that people respond to incentives. Or to be more precise, the SCM states that when faced with a set of alternative choices, people choose the one they prefer. So that if you offer them something they like better, they will change their behaviour. The SCM is simple and intuitive almost to the point of being self-evident. What's more, we shall see during the course of this study that, rightly interpreted, it is a thoroughly biblical way of thinking about how people make choices. Indeed, it is a thoroughly biblical way of thinking about how God makes choices.

What I hope we're going to see in the course of this study is that we yield a huge dividend of clarity when we apply the SCM to the murky question of how divine choices relate to human choices. The SCM allows us to define precisely what we should mean by a 'free choice'. It does so in a way that cuts through centuries of confused debate. What's more, by thinking carefully about the epistemic conditions needed for a human free choice, we can move towards a framework that begins to reconcile divine sovereignty (over the outcomes of human choices) and human responsibility (in the making of 'free' human choices).

I shall be arguing for the benefits of the SCM-based approach. It particular, that it avoids many of the problems inherent in the Molinist attempt to reconcile divine providence and human free will. (Indeed, when viewed from the perspective of choice theory, the problems with Molinism will show up as particularly acute.) Finally, we shall see that the SCM-based framework is readily extendable to address other theological issues, including the issue of divine necessity.

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[1] A paper presented at the 2005 Study Group Meeting of the Association of Christian Economists at Sidney Sussex College, Cambridge.

[2] S. E. Landsburg, *The Armchair Economist: Economics and Everyday Life*, (New York, The Free Press, 1993), p.3.

2. The Standard Choice Model

In its most basic form, the model of choice that lies at the heart of microeconomic theory is so simple and intuitive that most economists (at least) have taken it as close to self-evident. The model is this: An *agent* makes a *choice* from a *choice set*. They do so according to a *preference relation*. The preference relation is a binary relation that specifies for every pair of elements in the choice set whether one element is preferred to another, or whether the agent is indifferent (Figure 1). And that's it.

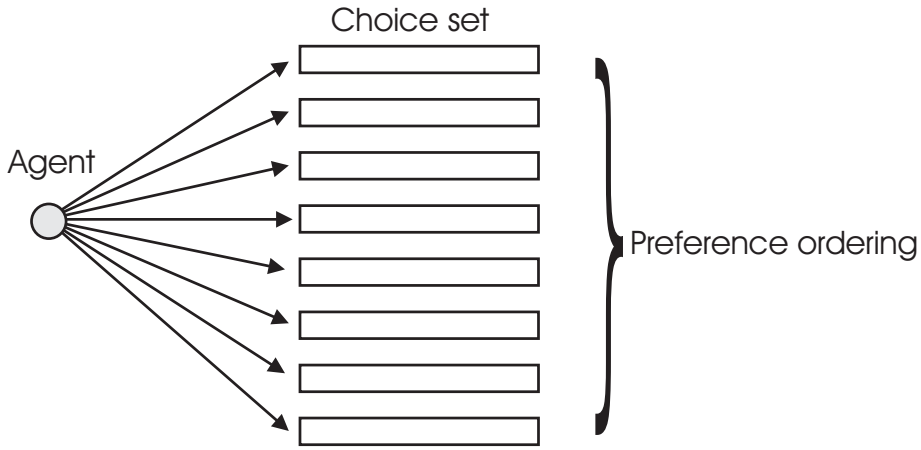

Figure 1: The Standard Choice Model

Most of the debate about choice over the last two hundred years has been over what one can assume about the characterisation of the choice set and preference relation, and how one can extend the model to study choice under uncertainty. In General Equilibrium models, for example, a consumer choice set is typically assumed to be closed, bounded and convex and the preference relation reflexive, transitive and symmetric[3]. Under the standard assumptions we can ascribe von-Neumann-Morgenstern expected utilities to each option and talk about utility maximization.[4] Or, more generally, we could talk about some sort of choice procedure or algorithm. One can easily contest the assumptions and debate the mechanism. However, it's difficult to find an example of the *basic structure* of the standard choice model being questioned.

What's more, it's a model of choice that would seem to have clear biblical support. People in the Scriptures make clear choices from a set of options. This is implicit whenever God *commands* his people to do (or not do) one thing rather than another. They face a choice set. Moreover, people make choices according to 'what they want' or according to the 'heart', as in Mk 7:20-23 (cf. Mt 12:33-35; Luke 6:45). Here, Jesus is asserting that (morally significant) choices come from the heart, where the *heart* 'stands for the whole inner being of a man in contrast to his external side': the dwelling place of desires, the seat of reflection and will, and the source of resolves.'[5] In the New

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[3] See, e.g., G. Debreu, *Theory of Value: An Axiomatic Analysis of Economic Equilibrium*, Cowles Foundation Monograph 17 (New Haven and London, Yale University Press, 1959), pp. 52-54.

[4] J. von Neumann and O. Morgenstern, *Theory of Games and Economic Behaviour* (Princeton, Princeton University Press, 1947), pp.15-30, 587-632. Or, for a comprehensive introduction, see M. Allingham, *Choice Theory: A Very Short Introduction* (Oxford, OUP, 2002).

[5] J. Behm, 'Kardia' in the *Theological Dictionary of the New Testament*, 10 vols., ed. G. Kittel and G. Friedrich, trans. G. W. Bromiley (Grand Rapids, Eerdmans, 1977), vol. 3, p. 612.

Testament, at least, the heart is closely related to the *mind*, as in Rom 1:28, where Paul talks about God giving people over to a 'debased' mind (we might say, a mind which fails to discern God), which results, again, in morally poor choices ('…to do what they ought not to do'). Roughly, applied to choices, we may say that such language corresponds to the notion of an agent choosing according to an inner 'preference' in the standard model. The language of choosing according to what one wants even extends to God's choices. In Rev 4:11, for example, the twenty-four elders praise God, saying, '…you created all things, and by your will they existed and were created.' We might equally well translate this, '…according to *what you wanted*', or '…according to your *preference* they existed and were created.'

And yet the standard choice model carries with it a distinctive understanding of what is meant by a 'free' choice. A 'free' choice is *any* choice made from a choice set that is not a singleton. Free choice, in this view, is not related to the preference relation, its characterisation or its origin. Freedom is rather defined relative to the choice set. To use more scholastic language, in the SCM, freedom of choice is not defined relative to the 'will' at all! (But more on this below.)

Now, this may be far too radical for those well acquainted with the historical debates on the 'freedom of the will'. However, if the standard model is correct, then we shall find that has huge repercussions for thinking about divine and human choices, divine freedom and human responsibility.

3. The SCM Applied to Divine Choice

3.1 The Biblical Data

Unsurprisingly, the glorious account of God's creation of the world in Genesis chapter 1 does not use the language of the SCM. Instead, we're given an account that asserts God's supremacy over anything and everything that alternative Near Eastern cosmologies might consider a rival to him. The narrator achieves that purpose by describing how God forms and shapes each aspect of the world by simple divine fiat.[6] This emphasis on form over ontology[7] makes it unlikely that the writer is asserting creation out of pre-existent matter (like that shaped by Plato's eternal craftsman in the *Timaeus*) by describing the earth as 'without form and void' in v.2. And although we could think of ways in which the writer could have made it even more explicit, it does seem to be part of his purpose to assert creation from nothing in even the very first verse (as Paul Copan and William Lane Craig have recently argued[8]). The idea is in any case made explicit in Jn 1:3 — 'all things

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[6] G. J. Wenham, *Genesis 1-15*, WBC (Waco, Texas; Word Books, 1987), p. 9

[7] H. Blocher, *In the Beginning: The Opening Chapters of Genesis* (Leicester, IVP, 1984), p. 66.

[8] Some have argued that it is possible to read the text as supporting at least the possibility of pre-existent matter, especially if one takes v.1 as a summarising title for what follows (rather than the first step of creation, to which v.2 is step number two), using the absence of an article on 'beginning' to translate it as a temporal relative clause ('In the beginning *when* God created…'). However, the absence of an article certainly does not exclude reference to an absolute beginning (cf. Isa. 46:10), and if v.1 is a summarising title, then the merismus of 'the heavens and the earth' does at least strongly imply the all-encompassing nature of God's creative activity, an idea taken up in Ps. 89:11-12; 104:2-9; 148:5; Isa. 42:5; 45:7, 12, 18 (cf. Acts 4:24; 14:15; 17:24). For more on this, see P. Copan and W. L. Craig, *Creation Out of Nothing: A Biblical, Philosophical and Scientific Exploration* (Grand Rapids and Leceister, Baker Academic and Apollos, 2004), pp. 29-70.

were made through him' (cf. Col. 1:15; Rev. 4:11). If everything apart from God has been created by him, then a simple corollary is the doctrine of creation *ex nihilo*.

We conclude that basic to the biblical doctrine of creation is a clear dichotomy between Creator and creation. That is, we claim that, on the one hand, God, and, on the other, everything that God has created (which before some time did not exist), fully partition everything that is or has ever been. There is no confusion between Creator and creation, and there has never been anything outside those two categories. This has profound implications for the divine choice at creation. It means that God's choice is *unconstrained*.

The other striking feature of the creation account in Genesis 1 is that the creation is not some arbitrary choice, but conforms to God's preference. Thus it is described by him as 'good' (vv.4, 10, 12, 18, 21, 25), '*pleasant*, *agreeable* to the senses' or 'to the higher nature,'[9] culminating with the exclamation 'and behold it was very good' (v.31). Moreover, the *superlative* nature of creation gives him glory (Ps. 19:1-6; 97:6; 104:31; cf. Rev. 4:11). This is especially if we allow the term 'creation' to encompass complete world-histories, including the (re)creation of the redeemed, 'whom I created for my glory' (Isa. 43:7).

3.2 Leibniz and the standard choice model

These things (especially the last point), suggest that the SCM could be a helpful way of thinking about the divine choice at creation. A straightforward application of the SCM would suggest something like that illustrated in Figure 2:

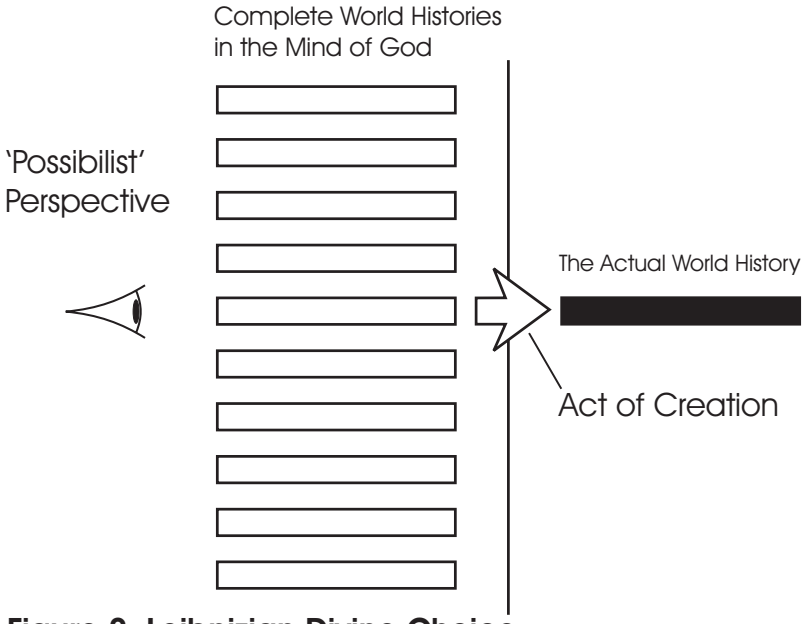

Figure 2: Leibnizian Divine Choice

The choice set is comprised of the (infinite) set of complete world histories in the mind of God. Based upon his preferences over that set, God makes a choice (the act of creation), resulting in the actual world history. If we assume that God can choose any logically-consistent world (although, as we'll see in a moment, of course many would deny this), then this is the basic metaphysical model of Leibniz. Leibniz himself put it like this:

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[9] F. Brown, S. R. Driver and C. A. Briggs, *A Hebrew and English Lexicon of the Old Testament* (Oxford, Clarendon Press, 1907).

> *Now as there is an infinity of possible universes in the ideas of God, and as only one of them can exist, there must be a sufficient reason for God's choice, which determines him to one rather than another.*[10]

The 'sufficient reason' lies in the fitness of the chosen world; as Leibniz himself (in)famously put it, God 'cannot have but chosen the best'.[11]

This, then is the claim so far: Leibniz may not have known it, but his conception of possible worlds is a fairly straightforward application of the standard choice model, fitting well with Genesis chapter 1 and with the extensive further biblical data on God's sovereign control over all things. In this view, things exist and happen because, ultimately, God *chooses* for them to exist and happen.

Leibniz was ahead of his time, both in his use of choice theory and in his innovative thinking on 'possible worlds' (more on which below). However, one would have to say that his model of divine choice has generated precious little enthusiasm. Indeed, it has provoked a long line of objections.

To begin with, Robert Merrihew Adams wonders whether one could talk of a 'best' world if for every possible universe in the ideas of God there was one better.[12] To use language of the SCM, God is like a consumer for whom there is no satiation level of consumption: no matter what his choice is, there is always another he prefers.

In response, we may say that while the assumption of non-satiation seems a reasonable one for modelling a typical human consumer (for many of whom contentment is nothing but an elusive dream), it is less that obvious that it is appropriate to extend such an assumption to God. What's more, such a situation would suggest an instability in God's choice quite out of keeping with the expression of satisfaction in Gen. 1:31.

Secondly, Leibniz's claim that God *could not have but* chosen the best seems to unduly restrict the freedom of God. This objection seems to have carried a great deal of weight in historical theology and persists though to the present day. John Frame, for example, in a book that is otherwise very helpful in breaking down conundrums in the doctrine of God, pretty much confesses that he finds God's freedom of choice and the purposefulness of his choice in irreconcilable tension.[13]

However, a little reflection shows it is a bizarre objection, especially once we've grasped the concept of freedom implicit in the SCM. In the SCM, the decision-making agent is in no way 'constrained' by his preferences; to act according to your preferences is simply to do what you want. It is to be *internally consistent* – or, to use the word the way economists use it, it is to be 'rational'. This is an attribute we should expect to find supremely in God. As we've said already, the SCM helps us see that the talk of 'freedom' and 'constraint' is best understood when applied to the choice set, not to an agent's preferences. God's choice at creation is utterly free and unconstrained because he creates *ex nihilo:* the choice set is unbounded and unconstrained. Even if one is hesitant about applying a choice model designed for human agency to divine choice (as John

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[10] G. W. Leibniz, *Monadology* 53, in N. Rescher, *G. W. Leibniz's Monadology: An Edition for Students*, (London, Routledge, 1991), p. 181.

[11] G. W. Leibniz, *Theodicity* 8, quoted in Rescher, *G. W. Leibniz's Monadology*, *op. cit*., p. 193.

[12] R. M. Adams , 'Must God Create the Best?' *Philosophical Review*, 81 (1972), pp. 317-332.

[13] J. M. Frame, *The Doctrine of God* (P&R Publishing, Phillipsburg, 2002), pp. 230-236.

Frame seems to be) the scriptural descriptions of divine choice suggest there are significant parallels. Indeed, while not quite using the language of the SCM, some have noticed this. Paul Helm, for example, puts it like this: God does indeed act 'freely', properly understood, when 'he acts in accordance with his supremely excellent nature without coercion or hindrance.'[14]

A third objection is the incongruity of talking about a 'best' world in which there is so much suffering, as we see in Voltaire's fierce satire on Leibniz's view in *Candide*.[15] This depends hugely, of course, on what one means by 'best'. We shall define it below as that which is maximally self-glorifying to God. However, while important, the relation between this and the existence of suffering is beyond the scope of this study; it shall have to suffice to claim that there is no automatic contradiction.[16]

A fourth objection, more serious from the perspective of thinking about modality, is expressed somewhat obliquely in another paper by Robert Merrihew Adams.[17] Adams argues that, even if one takes actuality as a 'simple, unanalysable property' of the actual world, Leibniz's account does not sufficiently distinguish the actuality of the actual world from all the others[18]. Adams seems to be treating nonactual possible worlds as *possibly* actual: they could have been actual, and are actual 'in themselves'. This is confusing: is it right to call them 'possibly actual' *after* the creation event has actualised the actual world? On the other hand, if they are not possibly actual, then we can concede a problem. For then, from this perspective, all talk of possibility becomes vacuous. There is just the actual world: all other possible worlds have been taken out of the picture through divine choice (see Figure 2).[19] Indeed, Leibniz himself never attempted to connect the concept of possible worlds with necessity.

A fifth, and strongly related objection has been dubbed 'Leibniz's lapse' by Alvin Plantinga.[20] This is related to the fourth objection because if, post-creation, there appears to be no such thing as possibility, then Leibnizian divine choice at least *looks like* a denial of human freedom. Plantinga argues that a proper understanding of human free choice shows that Leibniz was wrong to assert that from God's omnipotence '*it follows* that he could have created just any possible world (or any such world including his existence) he pleased.'[21] This is because, if we take a free

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[14] P. Helm, *Eternal God: A Study of God without Time* (Oxford, Clarendon Press, 1988), p. 174. Under the Leibnizian view, the universe is 'contingent' in the sense that there is no principle *external* to God that means his choice could not have been otherwise. Moreover, it is 'contingent' in the sense that God is self-sufficient: there is nothing in the act of creation *needed* for his existence. Yet it remains consistent say God *wishes* 'to have other beings and creates in accordance with these wishes' (Ibid., p. 193).

[15] Voltaire, *Candide; Or, Optimism* (Harmondsworth, Penguin Classics, 1947).

[16] In passing, we may note that the Libertarian device of having God share the responsibility of actualising the world with his creatures (which we shall discuss below under Molinism) still leaves the incongruity of God allowing suffering to persist once it has begun. cf. Helm, *op. cit*., p.181, n.10.

[17] R. M. Adams, 'Theories of Actuality', in *The Possible and the Actual: Readings in the Metaphysics of Modality,* ed. M. J. Loux (Ithaca and London, Cornell University Press, 1979), pp.190-209.

[18] Ibid., pp.191-201.

[19] This difficulty is even more acute under an understanding of God as timeless and eternal in which the Leibnizian picture of 'different phases of the divine choice are understood conceptually, and as not representing different temporal phases' (Helm, *op. cit*., p.179). In this case there is no time at which one could say that the other possibilities in the mind of God were ever 'possibly actual'.

[20] A. Plantinga, *The Nature of Necessity* (Oxford, Clarendon Press, 1974), p. 184.

[21] Ibid.

decision-making agent (whom, for reasons best known to himself, Plantinga calls 'Curley'), there are 'possible worlds such that it is partly up to Curley whether or not God can actualize them.'[22] This leads Plantinga, along with others, to posit alternative metaphysical models along Molinist lines.

4. The SCM Applied to Human Choice*s*

To deal with these fourth and fifth objections, we need to turn to human agency. Is it possible to defend 'Leibniz's lapse'? Indeed, was it a lapse? A reminder of the problem: Leibnizian divine choice leads to a single, determined world-history. As things stand, there would seem to be no other possibilities after the act of creation. To many, such determinism is a stark denial of human freedom.

However, applying the SCM now to human choice suggests no direct contradiction with Leibnizian divine determinism. Recall that in the SCM, freedom is defined relative to choice sets, not preference relations. This leaves open the possibility of a choice mechanism (such as choosing according to preference) that may indeed be 'determined' (at least, from some point of view), without any infringement of freedom. Indeed, *from the point of view of the modeller*, it is important that choices are determined (or at least predictable in some sense): that's what gives the SCM its explanatory power.

A social scientist modelling human choice constructs a model of choice. In it, he or she specifies an agent with a specific, defined choice set and a specific, defined preference relation. With specific parameters, the modeller may 'determine' what the agent will choose – for sure. Yet it remains a coherent representation of real human choice and deliberation. This suggests an obvious analogy: Just as a choice-theorist may construct a model comprised of agents facing choice sets with certain preferences, so God *creates* a world with human creatures face different opportunities with certain desires. But just as, for a choice-theorist, determinism at the modelling level doesn't infringe freedom at the agent level (or it would no longer be a model of *choice*), so determinism at a divine level need not be thought to infringe freedom of choice at a human level.

In this view, we can now talk about 'possibility' post-creation: it is specified by the choice sets facing real agents. From the point of view of an agent, we can describe these as *epistemic* possible worlds. In epistemic logic, something is 'possible' from agent *i*'s point of view in the sense of 'for all *i* knows'; or, to be more formal, it is possible if '*i* does not know it to be not the case'[23]. 'Possible worlds' under epistemic logic are thus possibly *actual* worlds, given incomplete knowledge about how the world is. We can expect the set of epistemically possible actual worlds for a given agent i at time t, which we shall denote by A_{it}, to be large given his or her lack of knowledge concerning the past, present and, especially, the future. From i's perspective, a proposition p could be true 'for all he knows' if it is true in at least one epistemically possible world; and he knows (with certainty) p to be true if it is true in all members of A_i.

For example, suppose I am deliberating after lunch between an apple and an orange. The choice set (an apple and an orange) determines some of the possible worlds relative to me at that moment. There is, *so far as I know at the time*, a possible world in which I choose an apple and a possible world in which I choose an orange.

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[22] Ibid.

[23] R. Girle, *Modal Logics and Philosophy*, (Teddington, Acumen, 2000), pp.148-151.

4.1 Jonathan Edwards and the SCM approach to liberty

We can make no claim to originality in thus applying ideas from the SCM to reconcile divine and an human choices because we find what is effectively an identical approach in Part 1 of Edwards' *Freedom of the Will*.[24] Just listen to Edwards applying modern choice theory to the problem of the will in 1754:

First, says Edwards, '…the will (without any metaphysical refining) is plainly, that by which the mind chooses anything. …an act of will is the same as an act of choosing or choice'.[25] That is, '…a man doing as he wills, and doing as he pleases, are the same thing in common speech'[26]. Indeed, says Edwards, '…I trust that it will be allowed by all, that in every act of will there is an act of choice; that in every volition there is a preference, or a prevailing inclination of the soul, whereby the soul, at that instant, is out of a state of perfect indifference, with respect to the direct object of volition.'[27] That is, as in the SCM, to talk about human 'will' is to talk about choice according to preference.

Next, Edwards makes a distinction between 'natural' ability and 'moral' ability. 'By "natural necessity", as applied to men, I mean such necessity as men are under through the force of natural causes; as distinguished from what are called moral causes…'[28] By which he means: 'We are said to be *naturally* unable to do a thing, when we can't do it when we will, because what is commonly called nature don't allow of it, or because of some impeding defect or obstacle that is extrinsic to the will; either in the faculty of understanding, constitution of body, or external objects.'[29] In contrast, he defines 'moral' ability like this: '*Moral inability* consists… either in the want of inclination; or the strength of a contrary inclination; or want of sufficient motives in view… [it] consists in the opposition or want of inclination.'[30] And it is straightforward to see this distinction working out in the SCM. In the SCM, to use Edwards' language, an agent is *naturally* able to choose between the elements of his choice set. Likewise, an agent is *morally* unable to choose other than those choices specified by his preference relation.

Finally, Edwards argues that a moral inability to choose otherwise is perfectly compatible with liberty, properly understood. As we argued with respect to the SCM, freedom of choice is not defined relative to the 'will' at all. He says, 'The plain and obvious meaning of the words "freedom" and "liberty", in common speech, is power, opportunity, or advantage, that anyone has, to do as he pleases… being free from hindrance or impediment in the way of doing, or in conducting in any respect, as he wills. … to talk of liberty, or the contrary, as belonging to the very will itself, is not to talk good sense…'[31] This, indeed, is a common-sense notion of freedom: 'Let the person come by his volition or choice how he will, yet, if he is able, and there is nothing in the

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[24] J. Edwards, *Freedom of the Will*, ed. P. Ramsey, vol. 1 of *The Works of Jonathan Edwards*, ed. P. Miller (New Haven and London, Yale University Press, 1985; first published, 1754).

[25] Ibid., p.137.

[26] Ibid., p.139.

[27] Ibid., p.140.

[28] Ibid., p.156.

[29] Ibid., p.159.

[30] Ibid.

[31] Ibid., p.163.

way to hinder his pursuing and executing his will, the man is fully and perfectly free, according to the primary and common notion of freedom.'[32]

4.2 Calvin and Dennett on the epistemic conditions amenable to real deliberation

We said above that thinking about human choice through the SCM, there are possible worlds from the point of view of the agent corresponding to elements in the agent's choice set. These are best described as *epistemic* possible worlds. *So far as the agent knows*, he can and may make a choice that will result in (from his point of view) one of these worlds becoming actual. But this observation on the epistemic conditions necessary for a 'free' choice is also not original. We can trace this idea of open future possibilities through ignorance back to Calvin's marvellous and poetic account of God's providence in book 1, chapter 17 of the *Institutes*. In section 4 of the chapter, Calvin is commenting on Proverbs 16:9:

> *The heart of a man plans his way,*
> *but the Lord establishes his steps.*

Deliberation and choice (especially in the face of danger) are a real thing, says Calvin: 'the Lord has inspired in men the arts of taking counsel and caution…' But he continues, in doing this, men 'comply with his providence'. How does that work? Well, says Calvin, 'God *pleased to hide all future events from us*, in order that we should resist them as doubtful'[33] (italics mine). Sadly, Calvin never really developed this idea, and neither has Reformed theology. In modern philosophy, we have to look elsewhere for a more substantial account.

For example, the contemporary philosopher Daniel Dennett, although an atheist, has a well developed treatment of the epistemic conditions that render responsible deliberation compatible with determinism in his book *Elbow Room*.[34] Dennett thinks of the universe from two perspectives:

The first perspective is what he calls a 'God's eye view of the universe'. Now the reference to God in that is incidental, perhaps even flippant. What he means is that '…we imagine the entire fabric of causation from the dawn of creation (on the left) to the heat death of the universe (on the right) laid out before us along the time line. And we imagine, with Laplace [and, we could add, Leibniz], that its entire history is determined.' [35]

The second perspective is to 'zoom in' from this vantage point, and look at a decision being made 'on the ground'. For example, in one chapter Dennett describes someone he calls 'Alice', trying to decide whether or not to go to London tomorrow. Now, from the 'God's eye' point of view, that decision may well look fixed and determined. However, 'From her perspective,' he says, 'her past looks unitary and fixed, while her future looks "open" and rich, with branches of opportunity and possibility.' [36]

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[32] Ibid., p.164.

[33] J. Calvin, *Institutes of the Christian Religion*, Library of Christian Classics vol. XX, trans. F. L. Battles (Philadelphia, Westminster Press, 1960) volume 1, 1.17.4., p.216.

[34] D. C. Dennett, *Elbow Room: The Varieties of Free Will Worth Wanting*, (Cambridge, Mass.; MIT Press, 1984).

[35] Ibid, p. 101.

[36] Ibid., p.102.

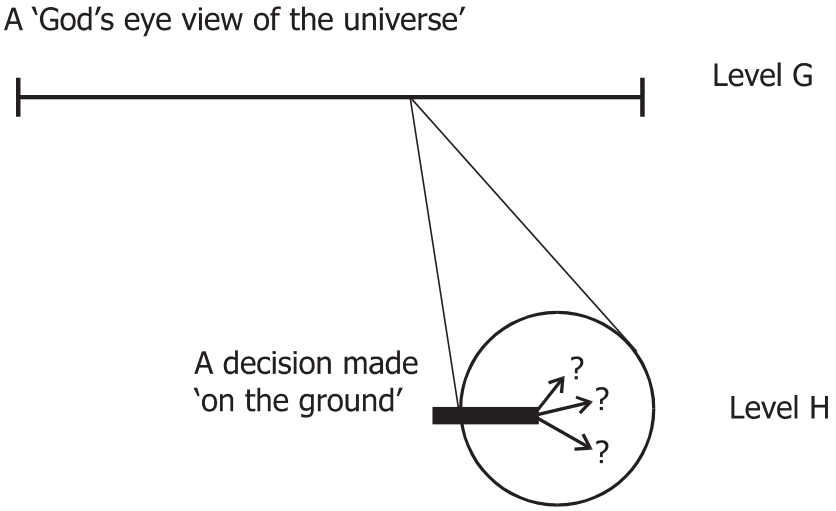

Figure 3: Viewing choice from two levels or perspectives

These two levels are illustrated in Figure 3. We might label the level at which there is a 'God's eye view', 'Level G'; and the level at which humans view things, 'Level H'. The key to understanding the relationship between that openness 'on the ground' and determinism at a 'God's eye' level, says Dennett, is to recognise that you can't ever have the two views *simultaneously*. That is, as you make a decision, you do not have access to the 'God's eye view'. As you deliberate, you do not know what you are going to decide.[37] The options facing you are therefore real options. And, says Dennett,

> *...it is this epistemic openness, this possibility-for-all-one-knows, that provides the* ***elbow room*** *required for deliberation.*[38]

That is, it makes no difference if you happen to know that the universe is determined. That you could *in principle* know the outcome of your decision from a certain perspective is irrelevant: the fact is, you don't. So holding that the universe is determined is not *fatalistic*, because it doesn't make deliberation impotent. In general, deliberation over your decisions still counts in a determined universe.

Of course, we can think of *some* situations where deliberation *doesn't* count. Dennett considers a man who has thrown himself off the Golden Gate Bridge and who thinks to himself as he plummets, 'I wonder if this is really such a good idea'. Dennett comments: 'Deliberation has indeed become impotent for this man.'[39] But think of that man deliberating *before* the jump. So far

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[37] Moreover, as Donald MacKay additionally noted, even if someone told you what you were going to decide, you would almost certainly have good reason not to believe them. The decision you were about to make would somehow have to factor in the information you were being given, and it is difficult, to say the least, to see how this could be the case; D. M. MacKay, 'What Determines My Choice', p. 58, in D. M. MacKay, *The Open Mind and Other Essays*, ed. M. Tinker (Leicester, IVP, 1988), pp. 54-65. A careful reading of the two occasions in history where people *have* been told with authority what they are about to do (Judas in, e.g., Jn. 13:21-30 and Peter in, e.g., Mk. 14:30) suggests it was for our information, not theirs!

[38] Dennett, *op. cit.* , p.113.

[39] Ibid., p. 104.

as he knows, not jumping is a genuine option. So far as he knows, jumping is a genuine option. And what he decides to do is, barring the intervention of a passer-by, what *will* happen. And, we might add (although Dennett does not), *that* is why God will hold him responsible for his decision.

Dennett writes as a materialist, and for him the universe is unwinding over time on an essentially deterministic path like some giant clockwork toy, mindlessly going about its business. In important respects, his worldview is miles away from one we would want to defend. Nevertheless, in terms of his account of why deliberation 'on the ground' is real deliberation even under determinism, this is merely an expanded version of Calvin's insight that 'God pleased to hide all future events from us, in order that we should resist them as doubtful'.

4.3 A summary of the SCM-based approach to choice and possibility

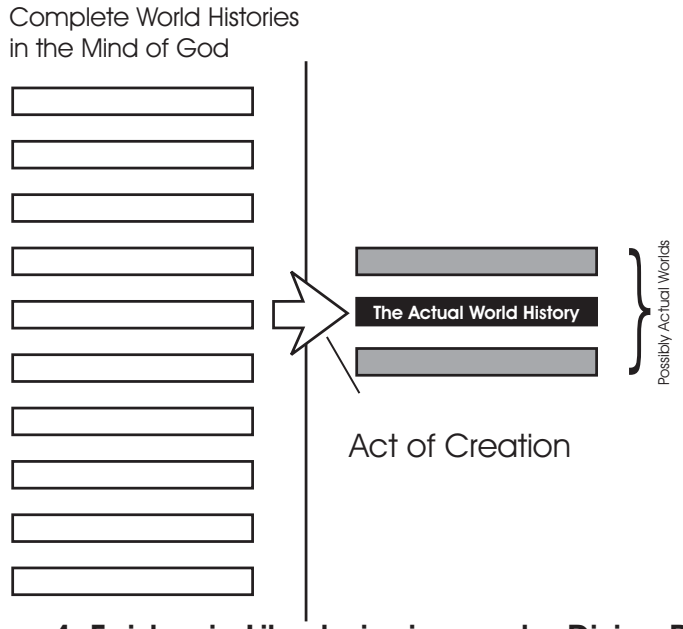

Figure 4: Epistemic Libertarianism under Divine Determinism

Putting all the above together, we get a metaphysical model combining divine and human choices as illustrated in Figure 4. The actual world history is a simple consequence of divine choice, as in Leibniz. Nevertheless, possibility remains a real feature of the actual world history from the point of view of the human agents who are a part of it. This is because of the limited knowledge appropriate to their creaturely status. They do not know in advance which member of the choice sets presented to them in the history they will choose, thus generating a set of epistemic possible worlds relative to the actual one.[40]

Somewhat provocatively, we may describe the brand of freedom implied by this model as 'epistemic libertarianism'. It is, of course, also solidly compatibilist, as the parallels with Edwards make clear. However, if the essence of liberterianism is for agents to look back on choices and be able to say 'I could have done otherwise', then we can see an important element of that here too. In this model, an agent can look back on a choice and say, '*So far as I knew at the time*, I could have done otherwise' – i.e. an epistemic libertarianism. (Indeed, we shall argue in a moment that this captures the only element of libertarianism that makes it compelling.)

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[40] Recall that at this stage we are calling these 'possibly actual' worlds, to be distinguished from the 'merely possible' worlds discussed below in section 5.

Finally, how then does this model deal with the old chestnut of the apparent 'tension' between God's sovereignty and human responsibility? Well, God's universal and efficacious control over our decisions (expressed in his Leibnizian choice of the actual world history) is *compatible* with us being accountable for them, because

- we *do not know* the outcomes of our decisions before we make them: *so far as we know at the time*, we can always do otherwise (epistemic libertarianism),
- and so we make unconstrained free choices according to what we want.

4.4 The Contrast with Molinist Approaches

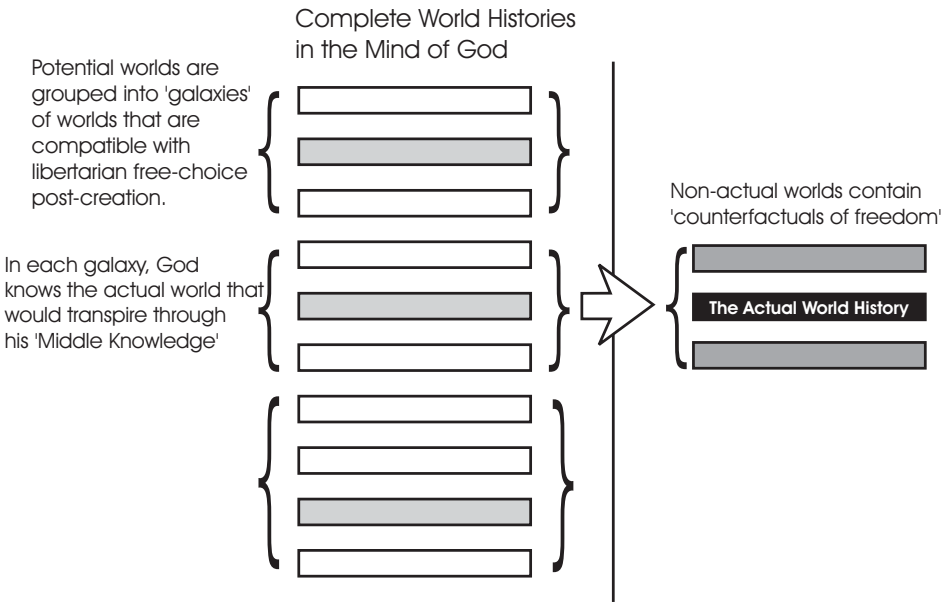

Figure 5: A Molinist Model

Before moving on, it is worth pausing at this point to compare the SCM-based model we have just outlined to some fairly recent 'Molinist' approaches to God's providence and human free choice. Figure 5 illustrates a Molinist alternative, roughly corresponding to that described by William Lane Craig in his thesis *Divine Foreknowledge and Human Freedom*.[41] In it, God also chooses to create from a set of possible worlds. However, before[42] the choice, he orders these worlds into sub-sets or 'galaxies' of worlds. Each galaxy contains the full set of worlds corresponding to the alternative choices available to the agents in those worlds. However, God has 'middle' knowledge over these worlds, in the sense of Molina, seeing 'in His own essence what each such faculty would do with its innate freedom were it to be placed in this or in that or, indeed, infinitely many orders of things.'[43] This asserts that God (somehow) knows which choices will transpire post-creation. God then creates not so much a world, as a galaxy of worlds; but he foreknows which of these will be actual. In this galaxy of worlds, non-actual worlds contain 'counter-factuals of freedom'. That is, they contain what agents could have 'freely' done but 'freely' chose not to – where 'free' is defined in an unqualified libertarian sense as 'could have done otherwise.'

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[41] W. L. Craig, *Divine Foreknowledge and Human Freedom – The Coherence of Theism: Omniscience*, Brill's Studies in Intellectual History vol. 19 (Leiden, Brill, 1992), pp.237-278.

[42] This is a logical 'before' rather than a temporal one. (The same applies in the SCM-based approach.)

[43] Molina, *Concordia* IV.52.9, trans. A. J. Freddoso (Ithaca/London 1988), p. 168.

Even this brief description, and a comparison between Figures 3 and 5, shows there are some notable points of contact with the SCM-based approach. In particular, in both approaches the set of possible worlds relative to the actual world post-creation is generated by the choice sets faced by agents in those worlds. With more work, it might be possible to reconcile the approaches still further. However, as they are currently stated, there are some clear contrasts, and some clear reasons to prefer the SCM-based approach:

To begin with, driving the Molinist approach is a particular, libertarian understanding of freedom: that to make a free choice, an agent must be able (from each and any perspective) to do otherwise. The problems with libertarianism are well discussed.[44] For example, if choice in the end is not determined by preference, but can only be influenced by it, there is always an element of every choice that remains arbitrary and unexplained. Dennett also points out that as a criterion of freedom, it is not testable[45]: An agent will not be able to give a clear answer to the question, 'Are you *sure* you could have done otherwise?' Finally, we struggle to find any suggestion in the Scriptures that this is how God thinks about human freedom – let alone that he finds it so supremely valuable as the Molinist approach implies.

On the other hand, the 'compatibilist' freedom inherent in the SCM-based approach does, as we have already noted, find support in Mk 7:20-23 and parallels. Morally significant choices come from the inclinations of the heart. Indeed, every choice can be fully explained by the state of an agent's heart. As a criterion of freedom it is testable: it is reasonable to suppose that an agent can give a clear answer to the question, 'Did you do what you wanted?' What's more, it is even 'libertarian'! – in the *epistemic* sense that so far as they know at the time, agents can do otherwise. The libertarian definition of freedom is popular, and many find it obvious and intuitive, but is perhaps only so because it picks up (and overstates) an element of true freedom that is more precisely captured (and in a testable way) by the epistemic libertarianism defended here.

Secondly, while biblical texts on God's perfect foreknowledge sit happy with the Molinist approach, other texts do not. The Scriptures testify to God's knowledge of our hearts and thoughts for sure, but also his *control* over individual human lives[46] and individual human decisions[47]: both good[48] and bad[49]. This control is detailed and effectual in a way that would seem to contradict the unqualified libertarian freedom at the heart of the Molinist approach.

On the other hand, texts which, for example, describe God 'hardening' someone's heart are readily understandable under the SCM-based approach. We can read them as examples of the author giving us a glimpse at that point in the narrative of the 'God's eye view', the view from 'Level G' in Figure 3, with the purpose of assuring us that what's happening really is part of God's 'definite plan' as well as his foreknowledge (Acts 2:23). Nevertheless, it will also be clear in the

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[44] Frame, *op. cit*., pp. 138-145.

[45] Dennett, *op. cit*., pp. 135-136.

[46] e.g. 1 Sam 2:6-7; Jer 1:5; Ps 37:23-24, 139:13-16; Js 4:13-16.

[47] e.g. Prov 16:1, 16:9, 19:21; 20:24; 21:30-31; Jer 10:23.

[48] e.g. Eph 1:4-6, 2:4-10; 2 Tim 1:9.

[49] e.g. Rom 1:24-28; Ex 4:21, 7:3-5; Deut 2:30; 1 Sam 19:9-10; 1 Kings 22:22-23; Isa 6:9-10; Judges 14:4; 2 Sam 17:14; Acts 2:23-24.

main flow of narrative (which takes place at 'Level H') that the person is entirely responsible and rightly held to account – even to the extent that their example may be used as a warning to others.[50]

Moreover, under the Molinist approach, God creates the world in the sense that what exists is only there because of his decision to create. However, the actualization of the world from the 'galaxy' of possibilities generated by libertarian choice is a joint venture between God and human agents. It is going too far to describe human agents in the Molinist approach as 'co-creators'. Nevertheless, there is a possible confusion of roles between Creator and creature that isn't there in the SCM-based approach.

We may also note that the assertion in the Molinist approach is that for God to know the actual world chosen by agents in a 'galaxy' of possible worlds, from his 'middle knowledge', is an appropriate knowledge for the divine being to have. However, it remains unexplained quite *how* he knows, especially since agents in the approach are said to have absolute autonomy over their decisions. In the SCM-based approach, on the other hand, the mechanism is straightforward: God knows what will happen because ultimately (at Level G) that is what he chooses to happen.

Finally, a well-known problem with the Molinist approach is that it would appear that agents have 'counter-factual power over the past'. That is, take any decision point in history and, if the agent concerned were to choose otherwise, they would change what God foreknew about their decision at the beginning of time. It is generally considered impossible for human agents to change things in the past; certainly, impossible to change something about God. But if 'doing otherwise' involves something clearly impossible, then that would seem to be a straightforward contradiction of unqualified libertarian freedom.

Eff Dekker attempts to downplay the problem by saying that if an agent were to do otherwise then that wouldn't change something about God, because the alternative action would correspond to a *different* past – one in which God foreknows the alternative action.[51] But this is confused. Figure 5 illustrates how, under middle knowledge in the Molinist account, God has a specific foreknowledge of actuality for each 'galaxy' of possible worlds, not for each world. It only varies *between* galaxies of worlds. Or, to put it another way, each world within a galaxy has a *shared* past.

Decision theorists may be a able to recognise some parallels between this discussion and the discussion in game theory[52] about decisions on and off the 'equilibrium path' in extensive form games. In one sense, we could say that what happens off the equilibrium path doesn't matter, since it happens with zero probability. But the analysis of games soon reveals that outcomes which involve implausible events and decisions off the equilibrium path lack credibility. Likewise here: accounts which involve implausible events off the path of actuality should be viewed with suspicion.

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[50] As Mark seems to be using Judas in Mk. 14:17-21.

[51] E. Dekker, *Middle Knowledge*, Studies in Philosophical Theology, 20 (Leuven, Peeters, 2000), p. 77.

[52] In decision theory, the language of 'games' is used to describe the extension of the SCM to multi-person, interactive decision problems. In a multi-person situation, what an agent decides to do will also depend on what he believes the other agents will do. In an 'extensive-form' game, the relationships between what agents can do, what they know, and when, is described in a game tree, which is a multi-person extension of a decision tree. An 'equilibrium path' in a game tree is a sequence of decisions where no agent can do better for himself, taking the other agents' decisions as fixed and given.

The SCM-based approach avoids this problem by being candid about the impossibility (viewed from 'Level G') of agents making decisions that deviate from the actual path chosen by God. Nevertheless there remains real epistemic possibility for agents at Level H. This is even true for agents who believe in God's foreknowledge of their decisions. This is because they *do not know* what God foreknows. At each decision-point, so far as they know at the time they can do otherwise, because the alternative action would change only what they *believe* about God's foreknowledge, not the foreknowledge itself.

One further advantage of the SCM-based approach is the straightforward way it can be extended to address issues of divine necessity and possibility. And it is to this that we now turn.

5. Extending the Framework to 'Mere' Possibilities

The view of epistemically possible worlds we have sketched so far does not cover what Rescher calls 'mere' possibilities.[53] That is, they encompass what 'could be' about the actual world given the constraints of limited knowledge, but not what 'could have been'. Why is it useful to be able to talk about what 'could have been'? As we explore the this issue, it should become apparent that there are two reasons: The first is related to doctrinal certainty. If we can argue persuasively that something 'could not have been' the case, then it certainly *cannot be* the case. The second is related to doxology. If we are able to talk coherently about what is 'necessary' or 'essential' to God, then that should direct us to what is praiseworthy about him. We should see these two motivations as we (briefly) explore the background to the issue of divine necessity, but it will become most clear when we look at an example under an extension to the SCM-based approach to possibility we have already looked at.

5.1 Background part I: scholastic understandings of 'necessity'

The scholastic use of the word 'necessity' leaves plenty of scope for confusion. One main line of thought in the scholastic usage of 'necessity' can be traced back to Aristotle. Unfortunately, Aristotle's discussion of modal propositions[54] gives a confused relationship between necessity and possibility, his modal syllogistic[55] has similar flaws, and his discussion of hypothetical necessity[56], while difficult to follow, seems to confuse necessity with implication[57]. Robin Smith concludes that 'Aristotle's system is incoherent and no amount of tinkering can rescue it'[58].

However, the scholastic use of 'necessity' does seem to pick up on the Aristotelian idea that the necessary is *what could not have been otherwise*[59]. That is, we can define necessity relative to *contingency*, where 'a contingent truth is one that is true, but could have been false.'[60] A necessary

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[53] Rescher, 'The Ontology of the Possible', in *The Possible and the Actual, op. cit*., p. 166.

[54] Aristotle, *On Interpretation* 12-13.

[55] Aristotle, *Prior Analytics* I:8-22.

[56] Aristotle, *Physics* II:9.

[57] See Girle, *op. cit.*, pp. 5-6.

[58] R. Smith, 'Logic' in J. Barnes (ed.) *The Cambridge Companion to Aristotle*, (Cambridge, CUP, 1995), p.45.

[59] Ibid., p.44.

[60] *The Oxford Companion to Philosophy*, ed. T. Honderich (Oxford, OUP, 1995), p.257.

truth is then one that is true, but not contingent. Moreover, a proposition *p* is *hypothetically* (or 'consequentially') necessary if it is true, and could not have been otherwise given that some other proposition *q* is true, but where *q* is only a contingent truth.[61]

Of course, what these definitions do is throw all the weight in our understanding of necessity onto the idea that something 'could have been' true or false. The scholastics seem to have been content to treat 'could have been' as a primitive concept, but the expression does raise the question of whether the issue of necessity actually matters. Surely what matters is whether something is *actually* true? Asking whether it could have been otherwise seems like idle speculation. However, scholastic thought suggests at least two reasons why necessity does matter: the first expressed explicitly; the second only hinted at.

The first is that they saw that *necessary* doctrinal truths tell us something about what is essential or natural to God. Turretin, for example, often talks of that which is 'absolute and necessary' and that which is 'essential to God' interchangeably.[62] Questions concerning necessity can therefore be seen as part of the pursuit of authentic doxology.[63]

Turretin expresses the second justification for enquiries into necessity when he says that defending the absolute necessity of God punishing sin against the Socinian view is, compared to defending a hypothetical necessity, 'far more efficacious to the strangling of that most pestilent heresy.'[64] The suggestion here is that an argument leading to a strong statement on the necessity of a truth is somehow more persuasive in establishing that truth. Jonathan Edwards expresses a similar idea when he states that 'metaphysical or philosophical necessity is nothing different from certainty.'[65] So both Turretin and Edwards are both at least hinting at the suggestion that reflecting on what 'could have been' has some bearing on our knowledge of what actually is. But to explore this connection further will require deeper reflection on the metaphysics of modality.

5.2 Background part I: the 'possible worlds' approach to necessity

Recent thinking about the meaning of necessity and possibility, especially following seminal work by Saul Kripke in the 1950s,[66] has been strongly influenced by what has become known as 'possible worlds' semantics. We have seen this terminology in use to some extent already in our discussion of Leibniz above. The basic idea is very simple. We live in one possible world: the actual world. But there are other possible worlds. A given proposition may be true in one world but not another; it is true-in-a-world rather than just true. A proposition is possibly true if it is true in at least one possible world. A proposition is necessarily true if it is true in *all* possible worlds.

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[61] *Dictionary of Latin and Greek Theological Terms, Drawn Principally from Protestant Scholastic Theology*, R. A. Muller (Grand Rapids, Baker Books, 1985), p.200.

[62] Compare Turretin, *Institutes of Elenctic Theology*, F. Turretin, 3 vols., translated by G. M. Giger and edited by J. T. Dennison Jr. (Phillipsburg, P&R Publishing, 1992), 3.19.9 with 3.19.10 and 3.19.11; p.237.

[63] Where 'doxology' refers to formulae of praise to God, as in the prophetic genre labelled 'doxology' (see Sweeny, M. A., *Isaiah 1-39 with An Introduction to Prophetic Literature*, FOTL (Grand Rapids, Eerdmans, 1996, p.519-520)), rather than the *study* of glorification.

[64] Turretin, *op. cit.,* 3.19.9, p.237.

[65] Edwards, *op. cit*., 1.3, p.151.

[66] S. Kripke, 'Semantical Considerations on Modal Logic', *Acta Philisophica Fennica*, no. 16, 1963, pp. 83-94.

Rather as the scholastics let the idea of 'could have been' carry all the weight in their modal thinking, all we have done here is throw everything onto the idea of a 'possible world'. But what exactly *is* a possible world? What existential status do they have? Where did they come from? Why do they matter? There is huge debate surrounding these metaphysical issues; but at least the possible worlds semantics provides a framework in which to discuss them transparently.

One way of maintaining the reality of possibility that seems to be missing in the Leibnizian account we illustrated in Figure 2 is to take divine choice out of the picture altogether, and say that actuality is a relative term: each possible world *really is* actual in itself. This is the approach of David Lewis[67]. It has a number of much debated technical problems[68] and the claim that all possibilities really exist 'smacks of science fiction.'[69] It also falls well outside the biblical constraints.

Alternatively, Adams argues that we have so far been approaching the issue from the wrong direction. The problem in Leibniz and Lewis is that they are taking what he calls a 'possibilist' perspective: they take the array of possible worlds as a starting point and *then* ask questions about actuality.[70] The alternative, which he calls the 'actualist perspective', is to take the actual world as a starting point, and to consider nonactual possible worlds relative to that. This is the approach of both Plantinga and Adams himself. Plantinga talks of a nonactual possible world as (a certain type of) state of affairs that is 'obtainable' from the actual world;[71] things that could have been (but do not actually exist) really exist in these worlds as 'unexemplified essences.'[72] Adams does something very similar, but talks of possible worlds as sets of propositions, or 'world stories', rather than states of affairs; the actual world differs from the others by being a 'true story' — that is, all its propositions are true, whereas in nonactual worlds at least some are false.[73]

These are both examples of 'modal' actualism (to use Loux's description[74]) or 'soft' actualism (to use Adam's description[75]). That is, although nonactual possible words are 'constructed out of the furniture of the actual world,'[76] they are still held to really exist. Only in taking the label 'abstract' do they differ from Lewis' possible worlds. As such they smack of Platonism.[77] Plantinga even goes so far as to say that God did not create possible worlds (by which he means states of affairs); but 'his creative activity results in their being or becoming actual.'[78] This would be

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[67] D. Lewis, 'Possible Worlds', in *The Possible and the Actual, op. cit*., pp.182-189.

[68] Adams, 'Theories of Actuality', *op. cit*., pp.193-199; M. J. Loux, 'Introduction: Modality and Metaphysics', in *The Possible and the Actual, op. cit*., pp.40-42; A. Plantinga, 'Transworld Identity or Worldbound Individuals', in *The Possible and the Actual, op. cit*., pp.146-165, and *The Nature of Necessity*, *op. cit*., pp.88-120.

[69] Loux, *op. cit*., p.48.

[70] Adams, 'Theories of Actuality', *op. cit*., pp.202-3.

[71] A. Plantinga, 'Actualism and Possible Worlds', in *The Possible and the Actual, op. cit*., p.258.

[72] Ibid., pp.268-272.

[73] Adams, 'Theories of Actuality', *op. cit*., p.204.

[74] Loux, *op. cit*., p.49.

[75] Adams, *op. cit*., p.203.

[76] Ibid.

[77] Loux, *op. cit*., p.55.

[78] Plantinga, *The Nature of Necessity*, *op. cit*., p.169.

defendable if we were to interpret the existence of possible worlds in a Leibnizian fashion as existence *in the mind of God*. But unless so qualified, modal actualism does seem to imply that there exist real things apart from God that are uncreated.

However, this is not the only approach to actualism. A final option is 'non-modal'[79] or 'hard'[80] actualism. Under this view, possible worlds are merely 'a heuristic device for thinking about theories and problems in modality'[81]. One strand of this view maintains that possible worlds exist only as objects of thought. A prominent example here is Nicholas Rescher:

> *Unactualised hypothetical possibilities lack an independent ontological footing in the sphere of objective reality. They can be said to 'exist' only insofar as they are conceived, or thought of, or hypothesised, and the like. For each possibility to be (esse) is therefore to be conceived (concipi). In consequence, possibility is mind-dependent.*[82]

Eef Dekker opts for a version of this account (which he calls 'Molinist Possibilism') in which possible worlds are grounded in divine conceptual activity.[83]

The huge advantage of non-modal actualism is that its approach to possible worlds is entirely consistent with Leibniz's insights regarding the divine choice at creation. There is indeed only the actual world once God has made his choice; but we can still conceive of others. The difficulty comes in relating possible worlds 'conceived of' *after* the creation event to those in the mind of God before it. If we ground them in the thoughts of individuals then the link is weak. Not only are possible worlds relative to each individual, their scope is unbounded — possibility becomes a hugely speculative notion. On the other hand, if, following Dekker, we ground them in divine conceptual activity, then the link is undoubtedly strong, but (as we saw with Leibnizian possibilism) the *relevance* of possible worlds after the creation event is unclear.

5.3 ETA Necessity

Nevertheless, non-modal actualism seems a promising line of enquiry. We shall therefore outline a new version of non-modal actualism, better suited to a biblical worldview, under the label 'epistemic theistic actualism' (hereafter 'ETA').

The 'possible worlds' of the SCM-based approach in Section 4 above were possibly *actual* worlds, given incomplete knowledge about how the world is. This gave us one set of epistemically possible worlds for each agent and observer on this side of the creation event. However, from this point on we shall adopt the device of seeing everything from the perspective of an 'ideal regenerate observer' (hereafter 'IRO'). This is because we are not especially interested in what a given agent *i*, drawn at random, knows about the world, but rather that which is *knowable* given the data of general and special revelation. Moreover, we take the IRO to be an 'S5-agent.'[84] S5-agents are

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[79] Loux, *op. cit*., p.56.

[80] Adams, 'Theories of Actuality', *op.cit*., p.203.

[81] Ibid.

[82] Rescher, *op. cit*., pp.170-1.

[83] Dekker, *op. cit*., pp.136-141.

[84] Girle, *op. cit*., pp.155-159. That is, the epistemic accessibility relation for the IRO is reflexive, transitive and symmetric (Ibid., pp.34-38).

controversial in epistemic logic because they are fully aware knowers who have immediate access to all the consequences of their knowledge and know what they do not know.[85] As a model of a typical knower they are therefore rather far-fetched. However, the key feature of an S5-agent is that they can map out every implication of their knowledge, so we can defend the use of an S5-agent for our purposes using any argument that defends doctrine that 'by good and necessary consequence may be deduced from Scripture.'[86]

The essence of the ETA approach is to expand the set of epistemically possible worlds to encompass such wider possibilities in a way that is meaningful given the sovereign choice of God at creation. So we define a possible world thus:

[Definition] ETA Possible World

(PW) An ETA possible world is a world that from the perspective of an IRO with full access to the data of divine revelation, God could have created in place of his actual choice.

If, as we have claimed, God makes a creation choice that is maximally self-glorifying, it follows that each ETA possible world is equally glorifying to God. Possible worlds thus defined may vary in trivial ways (e.g. the number of grains of sand on a given beach), or in more substantial ways. Figure 6 illustrates the relationship between ETA possible worlds, epistemically possible actual worlds, and the divine possibilities in the mind of God before creation.[87]

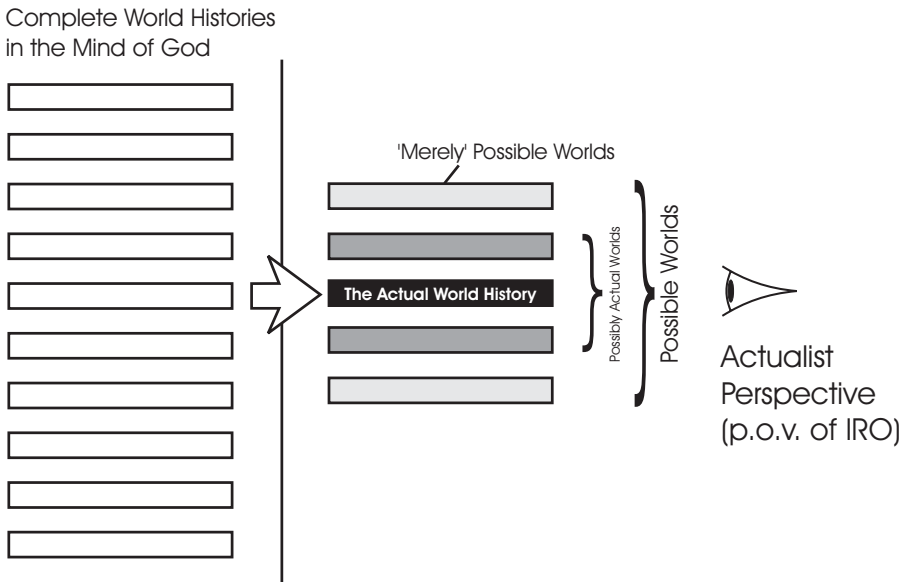

Figure 6: Epistemic Theistic Actualism

To summarise, the ETA approach is *epistemic* and *actualist* in that it is a non-modal approach where possible worlds exist as mental constructs in the mind of an ideal regenerate

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[85] Ibid., pp.154-164.

[86] *Westminster Confession of Faith* 1.6. For example, Turretin defends the construction of doctrine from consequences drawn from Scripture by arguing that the design of Scripture and the nature of man as a rational creature presupposes the ability to draw such consequences; *Institutes* 1.12, pp.37-43.

[87] Formally, we define $\langle W, R \rangle$ to be the frame in which we shall assess modal statements and arguments, where W is the set of ETA possible worlds, and R is an S5 accessibility relation.

observer in the actual world. They are worlds that *could be* or *could have been*, 'for all he knows' given the totality of general and special revelation.

The ETA approach is *theistic* in that the actualization of a world is exclusively the prerogative of the sovereign Creator, and that what counts as 'possibly actual' and 'merely possible' thereafter is constrained by what he reveals about himself in the actual world and predominantly in Scripture. We take this revelation of God to give us a true, if not exhaustive, relational knowledge of him. Talk of 'necessity' and 'possibility' in this context is automatically doxological; something that is necessarily true is essential to the self-glorification of God. Indeed, this is so much so that there is no Euthryphro dilemma in an ETA framework: there are no possible worlds containing divine commands in conflict with the revealed divine character.

5.4 An example: is punishing sin essential to God?

It may help to illustrate this understanding of possible worlds with an example. A debate which raged in the sixteenth century, but which remains profoundly relevant today, concerned the necessity with which God punishes sin. We can restate the issue more precisely by asking: in what subset of ETA possible worlds does God always exercise (vindicatory) punishment against sin?

We can also begin to see the different ways in which the answer to this question matters. Let *W* denote the set of ETA possible worlds. If the answer is 'in every member of *W*', then the situation is as in Panel (a) of Figure 7. This would make the punishment of sin essential to God's self-glorification, and a worthy subject of doxology. But note also the connection between necessity and certainty. Since *A*, the set of epistemically possible actual worlds, is a subset of *W*, then we can know *for sure* that God will punish sin in the actual world.

Suppose, however, than God punishes sin with an hypothetical necessity, given the truth of a *contingent* statement *q*, such as 'God decrees to punish sin'. That is, in the proper subset of *W* in which *q* is true, God punishes sin. Punishment of sin would then no longer be an appropriate subject for doxology. There is also more doubt about the certainty of actually punishing sin. On the one hand, if one could establish that *q* were true in every member of *A*, then we would have a situation like Panel (b) of Figure 4, and we would know for sure that God will punish sin in the actual world. On the other, if there were some doubt about, say, the completeness or irrevocability of the decree to punish sin, then the situation could be like Panel (c) of Figure 7. We could no longer be sure that sin would be punished.

In the sixteenth century debates, John Owen argued strongly for the necessity of the 'vindicatory justice' with which God punishes sin.[88] We can think about his 'Christological argument' that this is so in an ETA framework as follows.[89] The heart of Owen's argument is that easily remissible sins are incompatible with the sin-bearing death of Christ. There is no sufficient reason why God should lay easily remissible sins 'to the charge of his most holy Son, and on their account subject him to such dreadful sufferings'.[90] That is, in every possible world, if a forgiven sinner exists without their sin being punished, then Christ does not die in that world. We can also say that Christ dies in every ETA possible world. How so? Well, if we suppose not, that would

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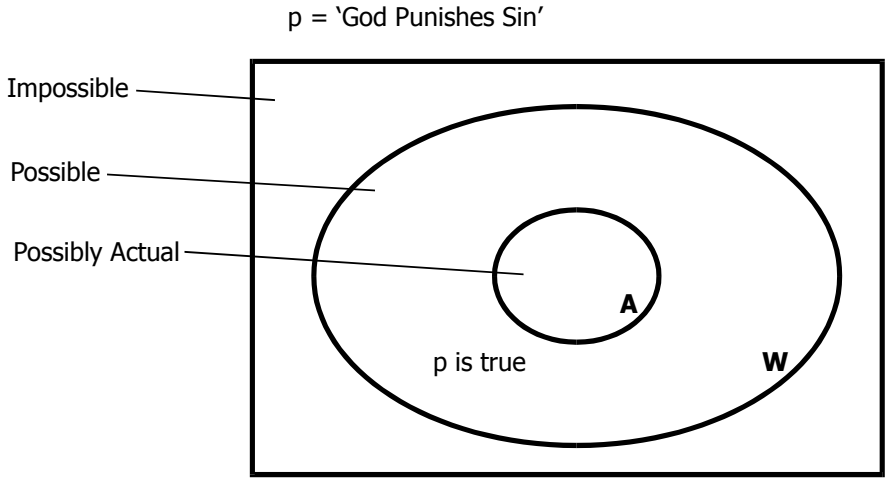
[88] *A Dissertation on Divine Justice*, J. Owen (Oxford, Thomas Robinson, 1653), in W. H. Goold (ed.) *The Works of John Owen*, vol. 10 (London, Johnstone and Hunter, 1850-55), pp. 481-624.

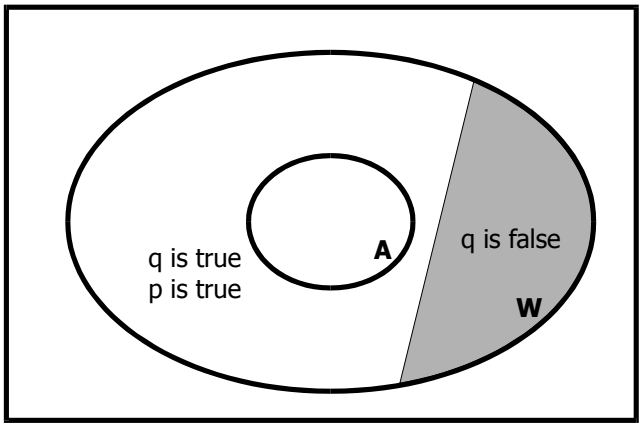
[89] For more on this, and more on the background to the issue, see B. Cooper, *Must God Punish Sin?* Latimer Studies 62, (London, The Latimer Trust, 2006).

[90] Owen, *op. cit*., p.556.

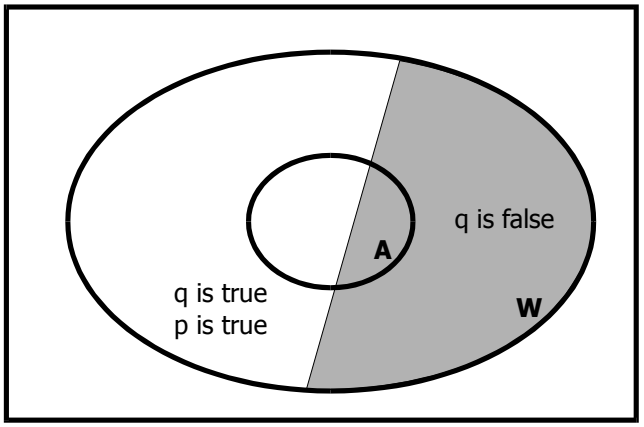
suggest at least one equally glorifying possible world in which Christ does not die, which again seems incompatible with God's love for his Son. We can conclude that in every ETA possible world, forgiven sinners are punished for their sin (in Christ). And if forgiven sinners are punished for their sin, then all sinners are punished for their sin.



(a) p is true in all W: p is certainly true



(b) p is true in all W where q is true: p is certainly true



(c) p is true in all W where q is true: p is true or false 'for all I know'

Figure 7

If we accept this argument, then the ‘vindicatory justice’ with which God punishes sin is both certain, and essential to God, and therefore worthy of praise.

6. Conclusion

In this paper, we have defended the concept of choice and freedom implied by modern choice theory, which is a freedom defined relative to an agent’s choice set rather than his preferences, as biblical and intuitive almost to the point of being self-evident. If we think about choice this way, then divine choice of complete, determined world histories is fully compatible with human choices that are free and responsible. What’s more this approach is sufficiently flexible and expandable to accommodate further issues in the doctrine of God; in particular, the issue of divine necessity. No claim is made, of course, to have completely untangled the mysteries that are bound to persist around such matters. And the approach may to some smack of the disciplinary imperialism for which economics-based approaches are becoming notorious. Nevertheless, it is hoped that this account may at least suggest some of the new possibilities that become available when inter-disciplinary techniques are applied to old tensions.