EUROPEAN JOURNAL
FOR PHILOSOPHY OF RELIGION

VOLUME 5 NUMBER 1 SPRING 2013

SPECIAL ISSUE
Minds: Human and Divine

GODEHARD BRÜNTRUP SJ
Guest Editor

ARTICLES

GOD'S EXTENDED MIND

DAVID P. HUNT

Whittier College

Abstract. The traditional doctrine of divine omniscience ascribes to God the *fully exercised* power to know all truths. But why is God's excellence with respect to knowing not treated on a par with his excellence with respect to doing, where the latter requires only that God have the (exercised or unexercised) *power* to do all things? The prima facie problem with divine 'omni-knowledgeability' – roughly, being able to know whatever one wants to know whenever one wants to know it – is that knowledge (whether occurrent or dispositional) requires an *internal representation*, whereas mere 'knowledgeability' does not. I argue to the contrary that knowledge does *not* require an internal representation, and that even if it did, an omni-knowledgeable God would satisfy this requirement. Omni-knowledgeability therefore represents a distinct understanding of God's cognitive excellence while satisfying the traditional insistence on full omniscience.

Why is God thought of as omniscient rather than 'omni-knowledgeable', where the latter means roughly 'being able to know whatever one wants to know whenever one wants to know it'? This is, after all, a pretty impressive property, and it's not just obvious why God would be defective, even by Anselmian standards, if he were omni-knowledgeable rather than omniscient. Divine omnipotence, for example, does not require that God be always doing everything he can do. Why then ascribe to God a property requiring that he be always knowing everything he can know?

Various justifications for this asymmetry between divine knowing and doing can of course be offered, but the most obvious, at least, do not seem very persuasive. One might argue, for example, that an all-doing God would be incompatible with the existence of creaturely libertarian agents; if this argument is sound, there is a positive reason not to require that God fully exercise his power with respect to doing things, and so to require nothing more than divine omnipotence. But of course there is

a parallel argument to the effect that an all-*knowing* God is incompatible with the existence of creaturely libertarian agents; if *this* argument is sound, there is a positive reason not to require that God fully exercise his power with respect to knowing things, and so to require nothing more than divine omni-knowledgeability.[1]

The purpose of this paper is not to review and assess all the justifications that might be offered for insisting on full omniscience when it comes to divine knowing while tolerating 'mere' omnipotence when it comes to divine doing. It will be assumed that the parallel with omnipotence creates at least *some* presumption in favour of omni-knowledgeability over omniscience – or if that is too strong, at least some presumption in favour of the theological *availability* of this attribute, should there prove to be good reasons to invoke it. The paper will focus instead on a rebuttal to this presumption which should carry some weight with traditional theists. This is simply that the ascription to God of full omniscience is deeply entrenched in the tradition and is therefore normative for theological theory-construction. The traditional understanding of omniscience is arguably part of the very *concept* of God; certainly it should not lightly be discarded in favour of some innovation. Rather than dismissing this objection, it will be argued that this may be one of those felicitous situations in which one can have one's cake and eat it too. For God to be omni-knowledgeable *is* for God to be omniscient.[2]

I.

An omni-knowledgeable being who is fully exercising his power to know is omniscient on anyone's account. That's just divine omniscience

[1] The *locus classicus* for contemporary discussion of the threat to human freedom posed by divine omniscience is Nelson Pike's 'Divine Foreknowledge and Voluntary Action', *Philosophical Review*, 74 (January 1965), 27-46. In 'The Compatibility of Divine Determinism and Human Freedom: A Modest Proposal', *Faith and Philosophy*, 19 (October 2002), 485-502, I look at parallel anti-freedom arguments based on an all-doing and an all-knowing God and I show that certain well-known strategies for responding to the latter would work just as well against the former. I take this to be a *reductio* of such strategies.

[2] I first sketched this view in 'Does Theological Fatalism Rest on an Equivocation?', *American Philosophical Quarterly*, 32 (April 1995), 153-165, and developed it further in 'Dispositional Omniscience', *Philosophical Studies*, 80 (December 1995), 243-78. Andrew Cullison, in 'Omniscience as a Dispositional State', *Philosophia Christi*, 8 (2006), 151-160, makes an interesting application of this idea to the Incarnation, but without any apparent awareness of my earlier work.

tout court. The controversial claim to be defended here is that an omniknowledgeable being who is *not* fully exercising his power to know can also count as omniscient. For such a being *x*, there are at least some truths *p* such that *x* has a *disposition* to believe that *p* (under certain conditions, e.g., the condition of *wondering* whether *p*), but *x* does not (yet) actually *believe* that *p*. The obvious problem for this thesis is that knowledge requires belief; since a mere disposition to believe is not (yet) a belief, it cannot count as knowledge, and so cannot contribute to omniscience.

How does belief differ from a (mere) disposition to believe? Not by being nondispositional: most human beliefs, for example, are dispositional rather than occurrent. A dispositional belief is itself a disposition to believe, and so satisfies the general schema for such dispositions. Since this schema concerns conditions for *x*'s counterfactual access to *p*, it will be called:

> *The Access Condition*. Were circumstance *C* to obtain, *x* would occurrently believe that *p*.[3]

(*C* might be *x*'s considering whether *p*, or any number of other conditions.) But more than this is required for a disposition to believe to rise to the level of a (dispositional) belief. What is the differentia by which the species *dispositional belief* may be distinguished from other members of the genus *disposition to believe*?[4]

A natural direction in which to look, given the unacceptable consequences of 'simply defin[ing] a dispositional belief in terms of

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[3] I first formulated the Access Condition, and the Location Condition that follows, in my 'Does Theological Fatalism Rest on an Equivocation?', *op. cit.*

[4] Robert Audi, in 'Dispositional Beliefs and Dispositions to Believe', *Nous* (1994), pp. 419-34, appears to endorse a different understanding of the relation between dispositional beliefs and dispositions to believe when he writes as follows: 'whereas a belief is – at least in good part – a (state of) readiness to act in certain ways appropriate to its content, at least by affirming the proposition believed, a disposition to believe is a readiness to form a belief. Neither forming a belief nor believing itself is a case of acting' (pp. 423-24). Audi, then, distinguishes dispositional beliefs from dispositions to believe in terms of the former involving dispositions toward an action and the latter involving dispositions toward a non-action. I say '*appears* to endorse a different understanding' because it's not clear that this cuts nature at a different joint than I do. So long as anyone who *dispositionally believes* that *p* in Audi's sense thereby has a *disposition to form the occurrent belief* that *p*, then it doesn't matter what dispositions *to act* also accompany, and are even constitutive of, this dispositional belief: a dispositional belief can still be a disposition *to* believe that meets certain further conditions, as it does on my understanding of it.

subjunctives or counterfactuals', is suggested by Alvin Goldman when he writes: 'To say that a person believes proposition *p* at *t* is to say that *p* is somehow lodged in the mind at *t* – in memory if not in consciousness.'[5] But what exactly is it for a proposition to be 'somehow lodged in the mind'? Whatever the answer to this question, it won't involve *p itself* being in the mind; Goldman's proposal surely requires only that *p* be *virtually* present, in the form of a mental representation. (This not only preserves intelligibility, but also accommodates arguments for wide content: that *p* is represented in the head does not entail that its meaning is in the head.) Moreover, the mere *existence* of an inner representation of *p* won't advance the issue unless it plays a role, and the right kind of role, in *x*'s exercise of the disposition to believe that *p*. (A grain of rice, inscribed with a sentence expressing *p* and surgically implanted in *x*'s cranium, won't play this role, unless a 'deviant causal chain' is introduced, in which case it won't play the *right kind* of role.) Goldman is best understood, then, as suggesting that a disposition to believe rises to the level of a (dispositional) belief only if it operates by 'activating' or 'accessing' an inner representation. This condition can be formulated as follows:

> *The Location Condition*. The means by which *C*'s obtaining would lead to *x*'s occurrently believing that *p* includes *x*'s accessing a representation whose content is *p* and whose location is internal to *x*.

At the heart of this condition is the distinction between an *internal* representation of *p,* such as a configuration of long-term memory which *x* would access were she to exercise her disposition to believe that *p*, and an *external* representation of *p*, such as a configuration of print on the pages of an encyclopaedia which *x* would read were she to wonder whether *p*. It is the internal representations alone which are supposed to support *x*'s claim to a (dispositional) belief that *p*.

In defence of divine omni-knowledgeability, it will be argued that the unexercised dispositions to believe of an omni-knowledgeable being can be assimilated to dispositional belief. If successful, this strategy should defeat the principal threat to divine omniscience as omni-knowledgeability, namely, that such a being doesn't really *believe* all true propositions. The foregoing analysis of dispositional belief shows what is *prima facie* problematic about this strategy. Given that analysis,

[5] Alvin I. Goldman, 'Epistemology and the Psychology of Belief', *Monist*, 61 (October 1978), 523-35 (p. 526).

(1) a disposition to believe, if it is to count as a (dispositional) belief, must satisfy the Location Condition;

but

(2) a being can be omni-knowledgeable without satisfying the Location Condition.

If (1) and (2) are accepted, it follows that an omni-knowledgeable being (at least one whose power to know is not fully exercised) does not actually believe all true propositions, and consequently does not count as omniscient. The task ahead is to show that both these premises are dubious, especially (but not only) when the knower is God.

Before moving on to this main task, however, there is one other problem that needs to be addressed. It won't detain us long. The problem, in short, is that any attempt to reconcile omni-knowledgeability with the traditional affirmation of omniscience will be a non-starter when it comes to what is perhaps *the* traditional view of God: that he is outside of time. The worry can be put as follows:

> Suppose God is timeless. Suppose further that God is omni-knowledgeable and not fully exercising his cognitive powers. Then there are some truths which God does not occurrently believe. But then, since there is no passage of time for God, there are some truths which God *cannot* occurrently believe – truths like 'α is actual and α includes *p*', where *p* is some contingent truth that God does not occurrently believe. But truths which God cannot occurrently believe are paradigm cases of truths to which God has no cognitive access. Thus, intuitively, omni-knowledgeability does not guarantee omniscience.[6]

This worry cannot be fully addressed without delving into the question of God's relation to time, and that would take us too far afield. But a couple of things can be said that should be adequate for present purposes.

First, the divine omni-knowledgeability proposal could be given a restricted formulation, limiting it to a sempiternal deity existing in time. This is less of a limitation than one might think. Divine temporality

[6] Thanks to Mike Rea for raising this objection. Rea was the respondent when I presented an earlier version of this paper in 2006 at the Pacific Regional Conference of the Society of Christian Philosophers, meeting at the University of San Diego. The indented passage in which the worry is formulated is taken verbatim from Rea's comments at the session, except for an omitted reference to the Secure Access Condition (which I don't introduce until later in the paper).

seems now to be the majority position among Christian philosophers, and it is worth challenging this majority to consider whether omni-knowledgeability might be an acceptable substitute for classic occurrent omniscience.[7] With the proposal restricted to a temporal conception of God, Boethians would simply not be relevant interlocutors.

But second, this concession may be unnecessary, since it isn't at all clear that omni-knowledgeability *wouldn't* be available to a timelessly eternal God. Since my proposal in effect assimilates divine omniscience to divine omnipotence, it would be surprising if a Boethian could accommodate omnipotence but not omni-knowledgeability. The heart of the objection we're considering is this:

> There are some truths which God does not occurrently believe. But then, since there is no passage of time for God, there are some truths which God *cannot* occurrently believe.

Now consider the omnipotence version of the objection:

> There are some things God does not do. But then, since there is no passage of time for God, there are some things God *cannot* do.

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[7] And *why* is it worth challenging them on this point? Beyond the sheer philosophical fun of it, one of *my* motivations is to explore the neglected conceptual space between Open Theism and Molinism. The conventional wisdom nowadays is that there are just two 'live options' for Christian philosophers wishing to preserve libertarian freedom in the face of divine foreknowledge and providential control: Molinism, or Open Theism. It seems to me that there has been some defection in favour of Open Theism in recent years. I think this a lamentable development. Insofar as the skids are greased by the assumption that, for anyone who can't accept Molinism, there is no place to stop short of Open Theism, it is worth identifying other stopping points along the way. I have argued elsewhere that 'simple foreknowledge' provides a defensible *via media*, and I believe that omni-knowledgeability may provide another.

Herewith a select bibliography of articles in which I defend the idea that God possesses *occurrent* simple foreknowledge: 'Omniprescient Agency', *Religious Studies*, 28 (September 1992), 351-369; 'Divine Providence and Simple Foreknowledge', *Faith and Philosophy*, 10 (July 1993), 396-416, reprinted in *Oxford Readings in Philosophical Theology*, vol. 2: *Providence, Scripture, and Resurrection*, ed. by Michael Rea (Oxford: Oxford University Press, 2009); 'Two Problems with Knowing the Future', *American Philosophical Quarterly*, 34 (April 1997), 273-85, reprinted in *The Importance of Time,* ed. L. Nathan Oaklander, Philosophical Studies Series, v. 87 (Dordrecht, Netherlands: Kluwer Academic Publishers, 2001), pp. 207-223; 'Providence, Foreknowledge, and Explanatory Loops: A Reply to Robinson', *Religious Studies*, 40 (December 2004), 485-491; 'The Providential Advantage of Divine Foreknowledge', in *Arguing about Religion,* ed. Kevin Timpe (New York: Routledge, 2009), pp. 374-385; and 'Perils of the Open Road' (with William Lane Craig), *Faith and Philosophy* (forthcoming).

The Boethian has well-known resources for responding to this second objection, and there is no reason to think that similar resources couldn't be applied to the first objection. Whether others regard the response(s) as satisfactory is irrelevant; the objection has been made on behalf of the Boethian, and it's the Boethian who must be satisfied. Assuming the Boethian finds *some* account reconciling omnipotence with atemporality to be satisfactory, it's unclear on what grounds the Boethian wouldn't find the parallel account reconciling omni-knowledgeability with atemporality to be equally satisfactory.

We now turn to the main problem for divine omni-knowledgeability, based on premises (1) and (2).

II.

Premise (1) relies on the Location Condition, but there appear to be clear cases of knowledge which fail to satisfy this condition. Suppose that Jane is not occurrently thinking that today is Friday, but that were she to consider what day it is she would form the occurrent belief that it is Friday. Here are a couple of ways that this counterfactual might be true: (i) the closest nonactual world in which Jane considers what day it is, is a world in which she *remembers* that it is Friday; (ii) the closest nonactual world in which she considers what day it is, is a world in which she *finds out* that it is Friday (e.g., by asking her friend Sam). The Location Condition rightly includes (i) as a case of (dispositionally) believing that today is Friday, while excluding (ii). So far so good. But (i) and (ii) hardly exhaust the possibilities; indeed, if Jane is a typical cognizer, there is another scenario that is far more likely than either (i) or (ii). This is where Jane would form the occurrent belief that today is Friday, were she to consider what day it is, because (iii) the closest nonactual world in which she considers what day it is, is a world in which she *figures out* that it is Friday – perhaps by thinking back to what she did earlier (yesterday, this morning), matching what she did with days on which she typically does such things, and arriving at the present by inference. What should be said about this case, where Jane is not occurrently believing that today is Friday, yet it's (iii) rather than (i) that is true? If this isn't deemed to be a case in which Jane (dispositionally) believes that today is Friday, it will be hard to resist the conclusion that people seldom know what day it is, and that's a conclusion to be avoided at almost any cost. But to grant Jane this belief in virtue of (iii) is to accept the propriety of

a (dispositional) belief that today is Friday whose propositional content is not represented in a memory trace or other mental state which satisfies the Location Condition.

I am not suggesting that an ability to figure out that *p* licenses the ascription of a belief that *p*. It typically doesn't. What I am claiming is that there are cases in which it is perfectly natural to attribute belief or knowledge to a person though the Location Condition isn't satisfied and the person can achieve the occurrent belief only by figuring it out. Cases like that of Jane in the preceding paragraph are neither unusual nor rare. I know my daughter's birthday because I remember it, but I don't remember my son's birthday; I know *his* birthday because I remember a recipe for deriving it from my daughter's birthday. I've lived enough years now that, when asked my age, I sometimes find myself hesitating for just a moment while I make a quick inference, but it's absurd to suppose that I don't know how old I am (I'm not *that* far gone – yet!). And so on.

It may be possible to relax the Location Condition in response to such cases without abandoning it altogether. The 'extended mind' view put forward by David Chalmers and Andy Clark offers one way to do this. The central example in their controversial article involves a fellow named Otto who writes down in a notebook which he always carries with him information he will need later in the day. Even if Otto suffers from a memory disorder so severe that the information recorded in the book leaves no internal mental trace whatsoever, Chalmers and Clark maintain that this information can nevertheless be attributed *to him*, in virtue of its being in the book (and his *knowing* that it is in the book), ready for retrieval at the appropriate time. Daniel Dennett had already drawn attention to 'our habit of off-loading as much as possible of our cognitive tasks into the environment itself – extending our minds (that is, our mental projects and activities) into the surrounding world'.[8] But Chalmers and Clark carry this idea further: insofar as external objects play an integral role in these cognitive tasks, the mind and the environment act as a 'coupled system', a cognitive system of its own. Because of this, Chalmers and Clark credit the memory-challenged Otto with a (dispositional) *belief* whose content is represented in the book and nowhere inside his skin.[9]

[8] Daniel C. Dennett, *Kinds of Minds* (New York: Basic Books, 1996), p. 135.

[9] David Chalmers and Andy Clark, 'The Extended Mind', *Analysis*, 58 (1998), pp. 10-23.

If Chalmers and Clark are right, there are at least some (ii)-like cases – ones in which *x* would *find out* that *p* were she to consider whether *p* – that should count as (dispositional) beliefs. But it's not clear on the Chalmers-Clark account how Jane knows what day it is when it's (iii) that accounts for her disposition to believe that today is Friday. Though Chalmers and Clark are willing to attribute to Otto a belief whose content is only externally stored, Otto *did* have the information lodged in his mind at an earlier time, when he wrote it in the notebook, and this may contribute to the willingness to credit him with this belief at the later time when it is no longer lodged in his mind. Indeed, Chalmers and Clark make it a general condition of belief-attribution that the information was endorsed by the person in the past and that its storage (whether internal or external) is a consequence of that endorsement. This is the sense in which the Chalmers-Clark 'extended mind' thesis retains a residual commitment to the Location Condition. But Jane, in scenario (iii), never gave her prior endorsement to the proposition that today is Friday. The Chalmers-Clark thesis therefore does not go far enough. Indeed, it's not clear why even in (ii)-type cases prior endorsement should be necessary. If Jane were to *find out* that today is Friday by consulting a calendar-watch she always wears, there seems no less (or more?) reason to attribute to her a prior belief that it's Friday than there is to attribute to Otto what he would find out were he to look in his notebook.[10]

Another way to retain the Location Condition as the ultimate arbiter while introducing some needed flexibility is to hold that *x* has a dispositional belief that *p* only if the Location Condition is satisfied by *p or by some set of propositions from which x might infer that p*. (How readily? There will clearly need to be some restriction on the complexity of the inference for the proposal to be plausible.) This move gets around Daniel Dennett's objection that, my dispositional beliefs being 'apparently infinite', to require each belief to satisfy the Location Condition 'means their storage, however miniaturized, will take up more room than there is in the brain'.[11] But this disjunctive version of the Location Condition, while it provides the desired results in cases (i)-(iii), lacks an independent rationale. If internal location is intuitively necessary for belief, what

[10] Andy Clark has dropped the 'prior endorsement' in his recent paper, 'Memento's Revenge: The Extended Mind, Extended', in Richard Menary (ed.), *The Extended Mind* (Boston: MIT Press, 2010), pp. 43-66.

[11] Daniel C. Dennett, 'Brain Writing and Mind Reading', in *Brainstorms* (Montgomery, Vt.: Bradford Books, 1978), pp. 39-50 (p. 45).

justifies waiving the requirement when it comes to inferable beliefs like the one supported by (iii)? And if it is waived in such cases, what justifies continued confidence in the original intuition?

In any case, it is easy to think of scenarios which fail this weakened version of the Location Condition but in which it is just as plausible to attribute belief as in (iii). Suppose that Basil is taking his customary Sunday afternoon stroll, along a route with which he is intimately familiar. Lost in thought and paying no attention to his surroundings, he is interrupted by a passerby who asks whether he knows how to get to a certain park. 'Certainly,' he replies, before even noticing where he is but confident in his knowledge of the area. He immediately takes in his surroundings and, without a moment's hesitation, begins telling the passerby the best route to his destination. Trouble for the Location Condition arises not only from Basil's reply – 'Certainly,' he says, in response to the question whether he knows the way – but from the fact that the reply doesn't have to be glossed as simply elliptical for 'I will know in a moment'. Though he had to use his eyes, and not just his memory, in the production of the occurrent belief, it is perfectly natural to say that he *knew* the way, before being asked.[12]

A radical alternative to the Location Condition, which fits well with the preceding example, is pushed by Alan White. Responding to the objection that it is 'because we already have our knowledge stored somewhere, say in our mind or in our memory, that we are able to produce it on demand', White notes that 'not everything that can be produced is some kind of entity which must have existed somewhere before its production. All that we need have is the ability to produce it; and abilities are not located anywhere'. Knowledge, White concludes, is just such an ability: 'to know that *p* is to be able to give an answer, namely that *p*, which is in fact the correct answer to a possible question.'[13]

Now if this represents nothing more than a retreat to the Access Condition it will of course be unsatisfactory, since that condition tolerates cases which should not count as beliefs. But White's reference to an

[12] Joseph Margolis, in 'Knowledge, Belief, and Thought', *Ratio*, 14 (June 1972), 74-82, advocates *accepting* the knowledge-claim but denying the corresponding *belief*-claim. This would allow one to stick with the Location Condition while also conceding that I *knew* the way to the park. But it's doubtful that the Location Condition is worth the cost of abandoning the principle that knowledge entails belief.

[13] Alan R. White, *The Nature of Knowledge*, APQ Library of Philosophy, ed. Nicholas Rescher (Totowa, NJ: Rowman and Littlefield, 1982), pp. 116, 119-20.

'ability' to produce the requisite belief 'on demand' suggests a version of the Access Condition considerably less promiscuous than the deliberately open-ended formulation given earlier. To believe that *p* is not just to have access to *p*, but to be in command of *p* – to have access to *p* 'at will', free (within limits) from frustration or delay. Call this vague requirement the '*Secure* Access Condition'. The fact that 'secure access' *is* vague and a matter of degree is not a serious problem for present purposes, since 'belief' is also vague and plausibly a matter of degree. In any event, the case in point does not appear to require any fine distinctions of degree or meaning: an omni-knowledgeable God, for whom considering whether *p* would be sufficient for knowing whether *p*, would have maximally secure access to all truths on *any* construal of 'secure access'.

There are at least two respects in which the Secure Access Condition has a marked advantage over the Location Condition. In the first place, the former (unlike the latter) gives the intuitively right answer for all of the test cases: (i) and (iii) - the two cases of (dispositional) belief – exhibit relatively secure access to the relevant information, while (ii) - the case of non-belief – makes access to this information *in*secure, inasmuch as it is dependent on Sam's availability, his knowing what day it is, and so on. In the second place, even in those cases where the Secure Access Condition and Location Condition give the same answer, the latter appears parasitic on the former. The Location Condition requires (a) an inner (b) representation of *p*. Regarding (a), a special problem arises when applying the Location Condition to cases of nonoccurrent as well as occurrent belief. For what makes it the case that an unconscious state can be said to be lodged in the *mind*? Presumably nothing but the fact that the activation of this state plays a key role in the exercise of the disposition to believe that *p*. A representation satisfies the Location Condition, then, not in virtue of its meeting some independent criterion for 'internalness', but in virtue of its contribution to *p*'s accessibility. So it is the Access Condition (Secure or otherwise) that is fundamental. Regarding (b), what makes an inner state a representation *of p* (and not *of q*)? A representational state does not possess its meaning inherently and in isolation, but in virtue of its functional relations with other states. Even if one invokes a mental language in which representations are encoded, what confers upon a particular configuration of 'mentalese' the meaning *p* is presumably the way this configuration functions in producing an occurrent belief that *p*. This makes the Access Condition again fundamental.

There is no doubt that the Location Condition exercises a certain intuitive pull. But this may simply reflect the fact that having *p* lodged in the mind, as in (i), is one way to secure access to *p*. Even if the human condition is such that there is a strong correlation between internal location and the degree of access required by belief, the correlation is not a necessary one, as (iii) demonstrates; nor is there reason to regard it as other than a human peculiarity with no essential application to God.

It is not, however, necessary for the defence of omni-knowledgeability that the Secure Access Condition be secured. It is enough that the Location Condition be discredited, and this has already been done.[14] Nevertheless, discredited theories often return in new guises. It is therefore worth noting that even if the Location Condition were somehow rehabilitated, the case against omni-knowledgeability would still not go through, since premise (2) is just as dubious as premise (1).

III.

There is, to begin with, a general problem in determining location with respect to the mind. The concept of the mind's spatial boundaries is even fuzzier than the concept of its temporal boundaries. Consider a prosthetic memory-device, programmed with the *Encyclopaedia Britannica*, which can be strapped to one's head. Does such a device provide one with (dispositional) belief in the contents of the encyclopaedia, or merely with a disposition to believe in those contents? Would the answer be any different if the memory-device were implanted inside the skull? Or if the person were equipped with wireless access to the on-line version of the encyclopaedia via a transmitter-receiver spliced into the short-term memory centre of the brain? If the Location Condition is taken as guide, such questions are to be answered by determining whether the relevant information is 'internally located'. But it's not clear how this criterion is to be applied in such cases.

This general problem becomes particularly acute when the mind belongs to God. Two attributes of God are chiefly responsible for this

[14] This is perhaps too strong. We've been considering a critique of omni-knowledgeability based on the Location Condition, and discrediting the Location Condition means that *that* critique fails. But insofar as I bear the burden of proof, I need to do more than rebut one attack on omni-knowledgeability; I need to make the position itself plausible. Readers must judge whether what I've said on behalf of the Secure Access Condition is sufficient to discharge this burden.

situation. One is divine *omnipresence*. On a straightforward reading of this attribute, nothing is external to God; so any state which plays for God the role of representation in the activation of his disposition to believe would appear to constitute an *internal* representation. (This includes the limit case where representational state and represented state collapse, as when God activates his disposition to believe that Jones is mowing his lawn by directly accessing Jones's lawn-mowing activity.) The other attribute is the traditional conception of God as a *nonspatial spirit*. On a straightforward reading of *this* attribute, God lacks spatial location altogether; so it is hard to see how the internal-external distinction is to be applied to him at all. Between them, these two attributes render the crucial distinction between internal and external even fuzzier than it normally is, making it prohibitively difficult for the critic to demonstrate that omni-knowledgeability involves a complete and decisive failure of internalness.

The critic, however, might balk at the use that has just been made of these two attributes. Omnipresence entails that God is in some sense everywhere, while nonspatiality entails that God is in some (presumably different) sense nowhere.[15] But then these attributes are relevant to God's status with respect to the Location Condition only if this condition is understood narrowly as a matter of *spatial* location. There is, however, good reason to reject this interpretation of Goldman's 'internal lodgement' requirement. This is because the intuitions supporting the Location Condition, such as they are, do not appear to be in any way dependent on whether *human* minds are viewed as (essentially) nonphysical and nonspatial: the Location Condition is really just a way of ensuring that the relevant representation is a state *of x*, and this requirement of 'metaphysical' internalness (as it might be called) continues to make perfect sense when *x* is nonspatial.

Given this understanding of the Location Condition, the claims made two paragraphs earlier collapse. The first claim was that God might not fail the Location Condition after all, since he is omnipresent, and everything (including whatever states function for him as representations) is arguably internal to an omnipresent being. But the fact that a particular representational state is (in this sense) spatially internal to God does not

[15] According to Aquinas, what permits a nonspatial being to be located everywhere is that '[i]ncorporeal things are in place not by contact of dimensive quantity, as bodies are, but by contact of power' (*Summa Theologica*, q.8 a.2).

entail that it is metaphysically internal as well; so if it is the latter which the Location Condition requires, divine omnipresence provides no reason to believe that an omni-knowledgeable God satisfies this condition. (What *would* provide reason to believe that an omni-knowledgeable God's representations are not just spatially but metaphysically internal to him is *pantheism*; but this goes considerably beyond the mandate of omnipresence, and is generally regarded as inconsistent with theism.)[16] The second claim was that a nonspatial God is not even subject to the Location Condition. But now that this condition has been understood metaphysically rather than spatially, God's nonspatiality clearly earns him no exemption.

The requirement that representations be metaphysically internal to the believer is enough to turn back this first attempt to defend the omni-knowledgeable God's theistic credentials vis-à-vis the Location Condition. But this reverse simply opens the way for a second and more successful attempt. Most who regard the human mind as a nonspatial thing are mind-body dualists. But for dualists like Descartes it is primarily consciousness (i.e., occurrent episodes of belief, doubt, fear, desire) that requires a nonspatial locus, while such unconscious states as nonoccurrent memory are assigned to the extended stuff of the body (brain).[17] When a Cartesian dualist assents to the Location Condition, then, the 'mind' or 'self' with respect to which the representation of *p* must be internal will be understood to include not only *x*'s nonphysical mind but some parts of *x*'s body as well. It is difficult to say just how to specify the relevant parts of the body; but doing so is at least no more difficult for the dualist than for the materialist, who must also distinguish a representation in the brain's memory-storage from a representation tattooed on one's forearm. Goldman suggests a functional account according to which a dispositional state 'has a "site" outside of consciousness, such that its contents can, under suitable circumstances, be drawn into consciousness'.[18] To ensure the exclusion of tattoos and such, let us add to Goldman's account the vague proviso that any site outside of consciousness which is to count as internal to *x* for purposes of the Location Condition must stand in an appropriately intimate (if not direct or immediate) relation to consciousness.

[16] For a minority report, see Robert Oakes, 'Does Traditional Theism Entail Pantheism?', *American Philosophical Quarterly*, 20 (January 1983), 105-112.

[17] See, e.g., Descartes' *The Passions of the Soul*, article 42.

[18] Alvin I. Goldman, 'Epistemology and the Psychology of Belief', p. 526.

Now if the materially-stored memories of a Cartesian mind satisfy the Location Condition (as they must if that condition is to be at all credible as a general stricture on belief), then so do the states of affairs that the omni-knowledgeable God would access were he to exercise his disposition to believe that *p*. This is because God stands to the world in much the same relation that a nonspatial mind stands to the memory-traces in its brain. The traditional view of this relation, as Richard Swinburne describes it, is that 'God controls all things directly and knows about all things without the information coming to him through some causal chain'.[19] It is for this reason that the world has sometimes been characterized as God's *body*.[20] More germane to present purposes is the idea that the world functions as God's prosthetic mind, and space (in Newton's phrase) as his sensorium.[21] This is not pantheism; it is simply the traditional doctrine of divine *omnipresence*, whose main ingredients Aquinas unpacks as follows: 'God is in all things by His power, inasmuch as all things are subject to His power; He is by His presence in all things, as all things are bare and open to His eyes; He is in all things by His essence, inasmuch as He is present to all as the cause of their being.'[22] This is enough to ensure that all states of affairs will be 'lodged in' the Divine Mind in at least as intimate a way as some brain-states are 'lodged in' a Cartesian mind.

One moral that some have drawn from arguments for 'wide content' is that 'the world enters constitutively into the individuation of states of mind; mind and world are not ... metaphysically independent categories, sliding smoothly past each other'.[23] Whatever one thinks about this thesis as applied to human minds, God's existence as a nonspatial spirit, coupled with a standard conception of divine omnipresence, makes it a particularly compelling view to take of the Divine Mind, and ensures an omni-knowledgeable God's satisfaction of the neutral (and least implausible) version of the Location Condition.

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[19] Richard Swinburne, *The Coherence of Theism* (Oxford: Clarendon Press, 1977), p. 104.

[20] For a discussion of this issue, see William J. Wainwright, 'God's Body', in *The Concept of God*, ed. Thomas V. Morris, Oxford Readings in Philosophy (New York: Oxford University Press, 1987), pp. 72-87.

[21] Isaac Newton, *Optics*, Query 28.

[22] Thomas Aquinas, *Summa Theologica*, q.8 a.3.

[23] Colin McGinn, *Mental Content* (Oxford: Basil Blackwell, 1989), p. 9.

IV.

It has been argued that the Location Condition itself is suspect, but that in any case an omni-knowledgeable being arguably satisfies this condition for all truths. This has important implications for theological theory construction. In particular, traditional commitment to the doctrine of divine omniscience should not prevent theistic philosophers from considering the virtues of omni-knowledgeability as an alternative to the standard assumption that God's cognitive power must be fully exercised.[24, 25]

[24] I identify some of these virtues in my 'Dispositional Omniscience', *op. cit*.

[25] Acknowledgment: This paper was originally presented in Munich, at a conference for the Analytic Theology Project, generously funded by the John Templeton Foundation.

GOD'S KNOWLEDGE OF OTHER MINDS

DAN O'BRIEN

Oxford Brookes University

Abstract. This paper explores one aspect of God's omniscience, that is, his knowledge of human minds. In §1 I spell out a traditional notion of divine knowledge, and in §2 I argue that our understanding of the thoughts of others is a distinct kind of knowledge from that involved in knowledge of the physical world; it involves empathizing with thinkers. In §3 I show how this is relevant to the question of how, and whether, God understands the thoughts of man. There is, we shall see, some tension between the alleged direct nature of God's intuition-based knowledge and the empathetic nature of understanding others.

I. OMNISCIENCE

According to a conception of God derived from St. Anselm, God is the greatest being that can be conceived – that 'than which nothing greater can be thought' (Anselm 1077–8: 93). He is the omni-God: omnipotent, omnibenevolent and omniscient. His omniscience is expressed in various ways: his knowledge is 'as complete as it is possible for a state of knowledge to be' (Morris 1991: 84); 'in God there exists the most perfect knowledge' (Aquinas *ST*, 1a, 14, I) and God has the 'best possible knowledge in the best possible way' (Rogers 2000: 71). It can also be expressed more technically: since perfect knowledge must involve knowing *everything*, then it must be the case 'that, for all *p*, if *p,* then God knows that *p*' (Kenny 1979: 10). Variations on this theme include: 'for every proposition an omniscient being either knows it or knows it to be false' (Zagzebski 2007: 262); God 'knows of every true proposition that it is true' (Swinburne 1977: 162); an omniscient being 'knows every true proposition and believes no false ones' (Plantinga and Grim 1993: 267), and '[f]or any *x*, and for any proposition *p*, *x* is omniscient if and only if if it is true that *p*, then *x* knows that *p*' (Nagasawa 2008: 7).

God knows all truths about the physical world, about tables and chairs, and neutrinos and quarks – 'he looks to the ends of the earth and sees everything under the heavens' (Job 28:24).[1] He also knows all truths about minded individuals; 'before him no creature is hidden, but all are open and laid bare to the eyes of him with whom we have to do' (Hebrews 4:13); 'whether you hide what is in your hearts or reveal it, God knows it all' (*Qur'an* 3:28) – 'The Lord knoweth the thoughts of men' (Psalm 93:11).[2] God knows, for example, that I live in the UK and that I grow asparagus. And, if God is omniscient he must also know that I am thinking certain thoughts – that I believe Alice Coltrane played the harp and that I covet my neighbour's Bosch chainsaw. He also knows the meaning of the words that I utter: he understands me when I say 'the asparagus is fresh' since the fact that I am referring to a certain state of affairs with those words is a fact about me, a speaker, a part of the world – and God knows *all p.* 'For *there is* not a word in my tongue, *but,* lo, O LORD, thou knowest it altogether' (Psalm 139:4).[3]

Don Cupitt, however, argues that God's omniscience should not be seen in this way; it should not be 'understood as if there were a super-intelligence of infinite capacity, its memory stocked with all true propositions' (1980: 85). The Bible never represents God as knowing what everybody else knows; God is only interested in what is hidden, in mysteries and in practical wisdom; the sacred texts of the Abrahamic religions do not explicitly state that God knows *all* p.

> God's business [rather] is with sifting, discerning, weighing in the balance, searching out and discriminating, because God is judge, and judges have to know the whole truth in order to pass just judgment. God is only interested in religiously-relevant knowledge, not knowledge in general ... God's knowledge is always, and above all, knowledge of

[1] I assume that such accounts of God's omniscience – those that constitute part of the definition of the 'God of the philosophers' – are attempts to express the nature of God as described in the sacred texts of the Abrahamic religions. Part of my motivation for the claims below concerning God and empathy come from attempting to align an account of God's omniscience with the relationship that God is taken to have with man in those texts.

[2] See also Luke 12:2–3: 'For there is nothing covered, that shall not be revealed; neither hid, that shall not be known. / Therefore whatsoever ye have spoken in darkness shall be heard in the light; and that which ye have spoken in the ear in closets shall be proclaimed upon the housetops.'

[3] It is thus suggested that God is omniscient with respect to the semantic content of human languages. My argument, though, focuses on the conceptual content of thoughts. I shall not consider here the relation between semantic content and conceptual, cognitive content.

> mysteries and secrets. It is always knowledge of things men do not know, do not want to know, do not want to become publicly known, or do not yet know. (ibid.)

It should be noted, though, that Cupitt has an anti-realist conception of God. God is not seen as a being, but rather as 'a unifying symbol that ... personifies and represents to us everything that spirituality requires of us' (ibid.: 9). Omniscience is thus understood in terms of self-knowledge and the searching of our own hearts. I shall not consider this kind of anti-realist approach, although it may be interesting to explore how my claims below concerning empathy could relate to this Cupittian account. Empathetic understanding of others – and even of oneself at other times – could be a requirement of the spiritual life.[4]

Others claim that knowledge of certain trivial truths is beneath God's dignity:[5] it is not demanded of God that he know the number of objects on my desk or nails in my garage. God's knowledge can be perfect even though it does not encompass such inventories.[6, 7]

I shall not discuss here whether God's knowledge should be seen as limited in such ways since even on these accounts it is still the case that God must have knowledge of minds, at least of some minds, some of the time. Even though, for example, there may be certain thoughts that are too trivial to be the concern of God – whether I believe I am running short of 25mm nails – there are other thoughts, those of religious significance, that are his concern.

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[4] See n10. I thank Professor Beverley Clack for this suggestion.

[5] There is, however, some tension here since in places scripture does suggest that God has knowledge of trivial facts: 'Are not two sparrows sold for a farthing? And one of them shall not fall on the ground without your father / But the very hairs of your head are all numbered' (Matthew 10:29–30; see also Luke 12:6–7). And in the *Qur'an* (6:59) it is stated that 'He has knowledge of all that land and sea contain: every leaf that falls is known to Him. There is no grain of soil in the darkest bowels of the earth, nor anything green or sear, but is recorded in a glorious Book'.

[6] This is a neo-Platonist view. See R. Sorabji, *Philosophy of Commentators 200–600 AD: A Sourcebook* (London: Duckworth, 2004); Alexander [of Aphrodisias], *On Providence* 13: 14–17, 25: 1–16.

[7] It has also been argued that there are other limits to God's omniscience. Swinburne claims that God is not omniscient with respect to the future, and this is consonant with certain passages of scripture where God is seen to change his plans and make conditional promises (see Swinburne 1977: 177). Scripture, though, if taken literally, suggests wider gaps in omniscience: 'the LORD god called unto Adam, and said unto him, where art thou?' (Genesis 3:8) and at Genesis 18 God has to go to Sodom to check for himself what has occurred there.

God's omniscience is not only seen in quantitative terms – in terms of God knowing *all p*, or all religiously-relevant *p* – but also in terms of the manner in which he has such knowledge. God does not acquire his knowledge via observation or inference, but directly – by intuition. One way to think of such intuition is to consider our knowledge of (simple) a priori truths. That 2 + 2 = 4 is something of which I am immediately aware; I do not have to infer this is true. My knowledge of this truth is, if you like, Godlike – it cannot be improved upon.

> [W]ith regard to those few [truths] which the human intellect does understand, I believe that its knowledge equals the divine in objective certainty, for here it succeeds in understanding necessity, beyond which there can be no greater sureness. (Galileo, cited in Craig 1987: 19)

It is easy to see how this analogy can be extended to God's knowledge of complex mathematical truths. He is immediately aware that complex equations are true just as we are capable of seeing that 2 + 2 = 4. And such knowledge extends to empirical and metaphysical matters. Causal relations are seen as 'intelligible', that is, it is possible for a powerful intellect or God to work out – a priori – or 'see', the effects that follow from particular causes:[8] God can intuit, before the cue ball is hit, the resting position of all the balls after a snooker break. He also has intuitive knowledge of metaphysical necessities such as that water consists of H_20. This is one aspect of what Edward Craig (1987: Ch. 1) calls the Image of God hypothesis; our certainty with respect to a priori truths is akin to God's certainty with respect to all truth: all *p* are directly present to his consciousness.

Some also argue that God's knowledge should not be seen as propositional; his thoughts are not 'broken up into proposition-sized bits' (Alston 1986: 288). God does not know, one, that *Dan covets the chainsaw*, two, that *water is* H_20, and three, that *neutrinos can travel faster than the speed of light*. The alternative is to see God's knowledge as 'a seamless whole, an undifferentiated intuition of all there is' (ibid.). This is the view of Augustine, Aquinas and Anselm. According to Aquinas God has divine simplicity, thus ruling out the complexity of propositional structure. Thus, 'God does not ... analyse reality into various separate facts, each of which is internally complex, and then organize them into some kind of system.' (ibid.)

[8] This is a conception of our knowledge of causality against which Hume inveighs.

> He knows what can be enunciated, not after its manner, as if in His intellect there were composition or division of enunciations, but He knows each thing by simple intelligence, by understanding the essence of each thing (Aquinas *ST*, 1a, 24, 14).

A feature of the propositional conception of divine thought that is seen as problematic is its representational nature. Propositions represent things out in the world. But, Alston (1986: 293) argues:

> [a] creature in our condition needs inner representations in order to be able to think about absent states of affairs, since the facts are rarely if ever directly present to our consciousness. But since God enjoys the highest form of knowledge He is never in that position, and so He has no need for inner representations that He can 'carry around with Him' for use when the facts are absent. The facts are never absent from His awareness.

One aspect of the picture that Alston rejects is cognitive internalism: the content of thought wholly determined by inner mental items. One could, however, reject this and see God's knowledge as externalist in character – the content of divine thought determined by the relation between God and the objects he is thinking about. Such accounts, though, can still be seen to hold to a propositional account of thought: a thinker's cognitive relation to the chainsaw constituting a different thought (or proposition) to that constituted by his cognitive relation to Alice Coltrane. Alston's suggestion is thus more radical. It calls for not just a rejection of *inner* representations, but all representations. One way to think of this is to see all of God's knowledge as knowledge by acquaintance: God's openness to the whole of reality akin to our openness to sensory input. Sellars' (1956: VIII, 32–6) myth of the given, however, casts a shadow over such a picture, but this will not be explored here.

Another problem with a non-propositional conception of divine thought is that it is not clear how God's knowledge can encompass the colour of the sky and of Himalayan poppies without 'the seamless whole' of God's knowledge somehow involving something like the concept BLUE that applies to those parts of the world, but not, say, to Brazilian football shirts and primroses; nor how God's knowledge can encompass the colour of the sky and Mary's belief about the colour of the sky without somewhere in this 'whole' there being two constituents sharing something like the propositional content, *the sky is blue*. As, however, I am focusing on the omni-God tradition, I shall not press these objections; I shall simply assume that God's thought is propositional since that is part of

the traditional picture, the claim being that if *p,* then God knows that *p*. God has knowledge of all (or all religiously-relevant) true propositions.

Various arguments focus on the alleged incompatibility between God's omniscience – in particular his omniscience with respect to human thought – and his other divine attributes. If God is to know everything there is to know about my thinking he must know that I believe it is *now* rather cold and that it looks rather pleasant *over there*. Knowledge of human thought involves indexical knowledge, yet God, not being located at a particular point in space and time, cannot have such knowledge. Omniscience with respect to the mind could also encompass what someone will come to think or intend or believe, and there are problems associated with God's foreknowledge of our mental actions and human free will. There are also several related arguments to the conclusion that God's divine attributes limit his possession or understanding of certain concepts. God cannot understand the concepts of surprise, tiredness, lust, fear or despair because he cannot be surprised (since he is omniscient), tired, fearful or despairing (because he is omnipotent) or lustful (because he is without sin). A common approach is to conclude from such incompatibility arguments that the omni-God cannot exist.[9]

This, though, is not my strategy. My starting point is a picture of God's knowledge in which he has knowledge (of at least some) of our thoughts and that this knowledge is propositional. I aim in what follows to highlight tensions within this picture, specifically between the direct, intuition-based nature of his knowledge and necessary aspects of what it is to have knowledge of other minds (the topic to which we turn in the next section) and I will thus suggest that we need to rethink how we should conceive of God's omniscience.

II. THE EPISTEMOLOGICAL REAL DISTINCTION

Descartes proposed a 'Real Distinction' between mind and body, between the two types of substance that compose human beings. Greg McCulloch (1999) calls this the 'ontological real distinction', in contrast to the 'epistemological real distinction' between the way we acquire understanding of the physical world and the way we have of coming to understand the thoughts of others. In interpreting thinkers, he claims, we must empathize with them: understanding someone's words,

[9] For a useful survey of such arguments, see Nagasawa 2008: 17–73.

thoughts and actions involves being able to think the thoughts that they entertained when they said, thought or performed them.

Support for this claim can be found in Collingwood's (1946) account of historical knowledge. For him, history is constituted by the thoughts of its agents; history is an investigation of mind.

> The processes of nature can ... be ... described as sequences of mere events, but those of history cannot. They are not processes of mere events but processes of actions, which have an inner side, consisting of processes of thought; and what the historian is looking for is these processes of thought. All history is the history of thought. (ibid.: 215)

History should be concerned with making the actions of those in the past intelligible and this will involve appreciating their reasons for acting as they did. Further, Collingwood claims that the practice of historical investigation uses the very same methods that we use in understanding each other. 'The ... historical method is the only way I can know the mind of another.' (ibid.: 219)

> If it is by historical thinking that we re-think and so re-discover the thought of Hammurabi or Solon [Babylonian king and Athenian statesman respectively], it is in the same way that we rediscover the thought of a friend who writes us a letter, or a stranger who crosses the street. (ibid.: 218)

But what are the methods of history, those that Collingwood sees encompassing the interpretation of the past and each other?[10] Empathy plays a crucial role. We empathize with historical figures through 're-enacting' their various predicaments and simulating their accompanying mental states.

> When I understand what Nelson meant by saying 'in honour I won them, in honour I will die with them', what I am doing is to think myself into the position of being all covered with decorations and exposed at short range to the musketeers in the enemy's tops, and being advised to make myself a less conspicuous target ... Understanding the words means thinking for myself what Nelson thought when he spoke them ... Unless I were capable – perhaps only transiently – of thinking that for myself, Nelson's words would remain meaningless to me. (Collingwood 1939: 112)

[10] Collingwood also sees self-knowledge as derived via a historical and therefore empathetic approach: 'it is only by historical thinking that I can discover what I thought ten years ago, by reading what I then wrote, or what I thought five minutes ago, by reflecting on the action I then did' (1946: 219).

These examples suggest a rich empirical account of the psychology of understanding others, one involving make-believe or simulation. Such details, though, need not concern us here; it is only the bare bones of the empathetic account of understanding upon which my argument depends. To see what these are, and to see why empathy is essential for understanding, I shall turn to Quine and McCulloch.

Quine focuses on what he calls radical translation: the coming to understand utterances and thoughts of an alien community from scratch. All we have to go on is the behaviour of the native speakers. And this, he claims, is also true of our understanding of each other. Radical translation highlights the nature of all understanding. In communicating with one another all we have to go on is the behavioural evidence. And:

> In general the underlying methodology of the idiom of propositional attitudes contrasts strikingly with the spirit of objective science ... [W]e project ourselves into what, from his remarks and other indications, we imagine the speaker's state of mind to have been, and then we say what, in our language, is natural and relevant for us in the state thus feigned ... [W]hat is involved is evaluation, relative to specific purposes, of an essentially dramatic act. (Quine 1960: 218–9)

As the native utters 'gavagai' we consider what we would have said *if we were him*.[11] We may perhaps have been drawn to utter 'rabbit' – given that there's a cute furry creature in front of him – and so we forward this as a translation of his utterance. To check whether this is a good translation we can try out 'gavagai' in other situations in which we take 'rabbit' to be appropriate. If signs of approval are elicited from the natives, then we will make a start on our translation manual; if not, then 'rabbit' would be rejected and further empathetic acts would have to be attempted.

Following McCulloch, let us consider the home case in which we come to understand an utterance made by someone of our own linguistic community. As we interpret the words of a friend we do not just ascertain that he makes a certain noise: 'ra - bit'. Rather, we interpret him as saying that *a rabbit is over there*. One must understand what the speaker *means* by 'rabbit'. In order to interpret the thoughts of a thinker we must

[11] It is not required that, in empathizing with another, we become another (in some sense). As Hume says concerning empathy in the context of his account of moral judgment: 'No force of imagination can convert us into another person' (1772: 234). Rather, we imagine what we would say or feel if we were in the position of someone else, if we had their character and beliefs, and we could see what they see.

understand the content of the propositional attitude ascriptions that we make. And, '[o]nly if I can *understand your words in your way* can I gain full-blooded understanding of you as a subject of propositional attitudes' (McCulloch 1999: 34). Similarly with respect to the natives: to ascribe propositional attitudes to them, we must come to understand 'gavagai' in the way that they do. When one has, one can then go about finding expression for this in one's home idiom. One understands and then one translates. The 'true measure of understanding is the view from inside, not the take-home message' (ibid.: 42).

As John McDowell puts it, one cannot come to understand others from 'side-on'; it is not the case that:

> when we work at making someone intelligible, we exploit relations we can already discern between the world and something already in view as a system of concepts within which the other person thinks; so that as we come to fathom the content of the initially opaque conceptual capacities that are operative within the system, we are filling in detail in a sideways-on picture – here the conceptual system, there the world – that has been available all along, though only in outline. It must be an illusion to suppose that this fits the work of interpretation we need in order to come to understand some people. (1994: 34–5)

There is therefore an important distinction between how we attempt to understand each other and how we attempt to understand the physical world, and it is empathy that grounds this distinction. When interpreting a physical system we work 'from the outside', applying concepts we already understand to the observational evidence. In order to interpret the mental states of a thinker, however, we must attempt to instantiate the very intentional make-up that she is manifesting. Folk psychology is, in Quine's words, an 'essentially dramatic idiom' (1960: 219).

Quine, however, is an eliminativist with respect to meaning and content. He argues – via the indeterminacy of translation (1960: Ch. 2) and the inscrutability of reference (1990: 50–2) – that the objective, extensional evidence available to the radical interpreter cannot provide a determinate interpretation of the native's thoughts. There is thus nothing propositional in the mind there to be known. Empathy may provide us with interpretations, but these do not have scientific status and thus they do not pick out real features of the mind. One can, though, as McCulloch does, reject Quine's sceptical conclusions whilst keeping his insight with regards to empathy.

> Other-understanding ... involves not just understanding their words in their way, but also the ability to use those words in their way, as vehicles of self-expression. So ... if I am to fully understand you as a subject of propositional attitudes, then I standardly have to be able to deploy a dramatic idiom, to go in for the kind of self-expression (at least in make-believe) that you are capable of. It is a matter of *getting inside your thinking* by imagining and then saying how it is for you, which involves acquiescing (at least in make-believe) in your words as you acquiesce in them. Otherwise, I at best have objectifying knowledge of you as a dealer in objects that happen to be words, and at worst substitute my own usage and thinking for yours. (McCulloch 1999: 35)

In order to be able to understand another it is required that an interpreter appreciates how thoughts are taken as reasons for action and subsequent thought. To 'get inside my thinking' you need to appreciate which beliefs of mine are currently driving my behaviour – that, for example, concerning the cutting-power of the Bosch, not the difficulty in buying new chains – and how my actions and thought follow from the norms of rationality and perhaps my idiosyncratic twists on these norms. Further, *you* may not take the design of the handguard as adding to the saw's desirability, but to understand *me* you must come to appreciate how I would do so – you must understand how beliefs can be reasons for me.[12] Thus, to have knowledge of what another is thinking one must be able to think thoughts with the same content as theirs – '*understand their words in their way*'.

This is the core of the empathetic account upon which I shall focus. My conclusions concern the essential nature of the understanding of others.[13] They concern what this must consist in for you, me, and for everyone, including God. My strategy would not therefore be accepted by those with an apophatic conception of God, by those who claim that we cannot provide any positive account of the nature of God's understanding and knowledge.[14] It should be stressed, though, that I am not claiming that God must understand us in just the same way as we

[12] See Stueber's arguments from the essential contextuality and indexicality of thoughts as reasons (2006: 155–65).

[13] This may strike one as odd given that my thoughts are developed from those of Quine who rejects the notion of the a priori and of necessary truths. Full-blooded Quineans, however, can take my claims not to be a priori or necessary, but to be those that are deep within our web of belief, far from the periphery where claims can be tested against experience.

understand each other, by, say, literally observing our gesticulations and hearing what we say. And it may be true that there are possible worlds in which we have very different ways of coming to understand each other; perhaps worlds where there is telepathy – an ability to which we shall return below. But my claim is that, whatever particular mechanisms may be involved, understanding others must always involve empathy, given the broad account of empathy with which I am working.

I have, then, made certain very general claims about knowledge of other minds (§2) and the divine mind (§1). The question that now arises is whether this empathetic conception of the knowledge of minds is compatible with the intuition-based model we have of the divine mind, and it is this I shall go on to discuss.

III. GODESE

God does not speak or think in English and so, if we accept that divine thought is propositional, then we must see it as involving concepts of a divine language; we can think of God as thinking in Godese. And, since he thinks in Godese and we think in English, we are natives to him. He is thus required to empathize with our thought in order to understand us.[15]

God should not though be seen as in the radical position that Quine describes. He has access to more evidence for interpretation than we do with respect to the native. We only have the behavioural evidence to go on whereas God knows the states of our brains and/or the states of our spirits when we think our thoughts, and he has this knowledge, not through inference, but via intuition – but this, I shall argue, is problematic.

When interpreting the natives we listen to their utterances, but there is nothing about a certain noise ('gav-a-guy') that carries with it its own

[14] Demea, the mystic in Hume's *Dialogues concerning Natural Religion*, claims that: 'we ought never to imagine, that we comprehend the attributes of this divine Being, or to suppose, that his perfections have any analogy or likeness to the perfections of a human creature. Wisdom, thought, design, knowledge; these we justly ascribe to him; because these words are honourable among men, and we have no other language or other conceptions, by which we can express our adoration of him. But let us beware, lest we think, that our ideas any wise correspond to his perfections, or that his attributes have any resemblance to these qualities among men.' (Hume, 1779: 44) – 'Great is the Lord, and greatly to be praised and his greatness is unsearchable.' (Psalm 145:3)

[15] It could be argued that the model of radical translation, on which I base my argument, is not appropriate since God created us. To resist this claim, though, think about our own children: we bring them into being, but sometimes we do not understand their actions or thinking, that is, until we attempt to empathize with them.

interpretation – the reference to rabbits somehow contained in the sounds of their voices and thus directly perceptible to us; that would be imbuing noises with what Putnam calls a 'magical theory of reference' (1981: 3–5). There are no magical connections between words, mental images and the things in the world that those items are about: 'even a large and complex system of representations, both verbal and visual, still does not have an *intrinsic*, built-in, magical connection with what it represents.' (ibid.: 5)

In order to interpret what someone means by that utterance we have to see how the word 'gavagai' is used and come to be able to think the thoughts that elicit such utterances. And just as there is nothing about the sound 'gav-a-guy' that wears its meaning on its sleeve, there is also nothing about certain brain or spirit states that does either. God too, therefore, must be able to think the thoughts that elicit utterances in our languages. God must be able to think the thoughts that I am entertaining when I say that 'Alice's harp-playing is transcendent' and that 'Paul's chainsaw is powerful'.[16]

It is not clear, though, how this is possible – how God, that is, could directly, via intuition, come to be able to think our thoughts. As McCulloch puts it, in the context of the native, this would only be possible:

> if we found self-announcing ideas-of-rabbits in the skull ... But we know we shan't find any of them ... These items would not only need to constitute the alien's understanding of her words, but also, on inspection as it were, transmit it to the Outsider. What an idea! (McCulloch 1999: 41)

But this is an idea that permeates the history of philosophy and theology. It is there in both scholastic accounts of divine thought and in early modern accounts of thought and reasoning.

Aquinas claims that angels can read human minds, and they can do this much like we do ourselves – only better – that is, via behaviour: 'more deeply they penetrate those occult bodily manifestations' (*ST*, 1, 57, 4) that reveal our thoughts. They do not, however, *reason* to the conclusion

[16] For the purposes of this paper I wish to remain neutral on the metaphysics of mind. My claims concerning empathy apply whether one is a dualist or a materialist of either a reductivist or non-reductivist stripe. Even if there were, for example, a plausible naturalistic account of thought, God could not read off the content of our minds via direct intuitions of the particular causal laws involved. Interpreting thought involves making the thinker intelligible – in their terms – and this, I have argued, requires empathy. 'A unified account of neuroscientific explanations of every single bodily movement of some person does not constitute a biography' (Sandis 2011: 193).

that we are (for example) happy from observation of our smiles; they do not, first, observe behaviour and then infer that mental states are the cause of it. Rather, angels see or intuit our mental states as if *through* the behaviour: 'as an object and its image are seen simultaneously in a mirror' (*ST*, 1, 58, 3).[17]

He also claims that angels have the ability to know our secret thoughts, those without bodily manifestation. This ability, though, cannot be exercised because 'what is proper to God does not belong to the angels. But it is proper to God to read the secrets of hearts, according to Jer. 17:19, "The heart is perverse above all things, and unsearchable; who can know it? I am the Lord, Who search the heart"' (*ST*, I, 57, 4). Ockham has a similar story. Angels have the power to read each other's minds and those of humans – directly, via intuition (I. Q6) – but again there is the claim that only God can 'scrutinize hearts' (IV, Q9); angels only being able to do this when God wills they can. Thus, the scholastics accept that God can read our minds and he can do this via something like perception, albeit telepathic perception. And, in a recent paper, Torin Alter 'see[s] no reason to doubt that God could directly perceive the contents of human consciousness – by telepathy' (2002: 9).

A 'perceptual model' of knowledge is also a theme in early modern philosophy. The Cartesian picture is that our mind is transparent to ourselves – to our inner eye – and thus we have complete and infallible knowledge of our own mental states. Craig argues that such knowledge is another aspect of the Image of God hypothesis: the knowledge we have of our own mental states akin to God's knowledge of reality (above we noted how our a priori knowledge is seen as akin to divine knowledge). This is also a conception of the divine mind to which Newton was committed.

[17] Ockham, in contrast, argues that angels reason in much the same way we do, they *infer* that we have thoughts from our behaviour. There are, though, problems in accounting for this ability. There are various ways it has been claimed that we can have knowledge of other minds, but none of these look to be available to angels. I could infer that your smile indicates happiness since this is so in my own case. Angels, however, do not have bodily manifestations of mental states. A theoretical account of the mind would also be difficult to attribute to angels since on such accounts our knowledge of our own mind piggy-backs on knowledge of others (see Sellars' Myth of Jones, 1956: 90–117) and it would be difficult to accept that angelic self-knowledge depends on knowledge of a theory concerning human thought. We can also come to know what someone else is feeling (and thinking) via sympathetic mechanisms – such as those involved in the contagiousness of smiles and yawns – but again, it is not clear how these could be relevant to angels.

We perceive images – 'sense data' in twentieth century parlance – in our 'sensorium' (Cartesian theatre) and our intimate relation with such images provides us with certain knowledge of them; God's sensorium, Newton claims, is space.

> [God] sees the things themselves intimately, and thoroughly perceives them, and comprehends them wholly by their immediate presence to himself; of which things the Images only carried through the Organs of Sense into our little Sensoriums, are there seen and beheld by that which in us perceives and thinks (Newton 1704: III, 1, 20).

God's knowledge of minds is presumably of the same order. Our thoughts are immediately present to him; he 'thoroughly perceives them, and comprehends them wholly by their immediate presence to himself'.[18]

The immediacy of God's knowledge may not be seen as obviously incompatible with empathetic understanding. This is because it would seem we can have something akin to intuitive knowledge of other minds. We do not infer that someone is in pain when they are writhing on the floor, and we do not normally infer what someone means from the words that they utter; rather, pains are *seen* in their movements and meanings are *heard* in their utterances. McCulloch talks of phenomenological facts being available to the interpreter. God, then, having knowledge of *all p* would know such facts and thus understand our thoughts.

Such facts, though, are not straightforwardly observable, aspects of thinkers that are just there to be seen by anyone looking, like perhaps the colour of their hair. They are the kind of facts that become manifest when one adopts the perspective of the thinker; when one manages to empathize with their thought. And so talk of phenomenological facts and of *seeing* pains and *hearing* meaning is no less problematic for conceptions of the divine mind. It is not clear how God can come to know such facts through intuition, conceived as some kind of purely perceptual ability; knowledge of such facts requires empathy.[19]

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[18] Reasoning is also seen in perceptual terms in the early modern period. Locke, for example, sees reason as essentially perceptual: we directly perceive the evidential connections between ideas (both deductive and inductive). Hume can be seen as rejecting such a conception of reason, replacing it with a mechanistic account (see Millican 2012).

[19] It could be claimed that God could empathize with human thought through Christ. There are, though, philosophical problems with the incarnation, and any such strategy would merely seem to transpose the difficulties in understanding from between God and man – how can he understand us? – to between God and Christ. I shall not explore these issues here.

If God is to understand our thoughts the divine mind must be more active; he must empathize with our thinking – think our thoughts for himself. If God does have telepathic abilities then such abilities – if they are to constitute *understanding* – must involve God coming to have thoughts with the same content as ours. Divine mindreading cannot be purely perceptual. That would involve a picture in which our minds contain magical world-directed symbols, and this is untenable.

Science can be said to adopt a God's eye view; it attempts to describe the world *sub species aeternitatis*. In §2 we saw that Quine argues that mind and meaning do not come into focus from this elevated perspective; they are thus not real constituents of nature. He is a sceptic with respect to the content of language and thought. McCulloch sees such scepticism as a *reductio* of the assumption that all truths must be accessible to the God's eye view, and he develops a positive picture of how empathy must be involved in understanding others. The dispute between Quine and McCulloch concerns a metaphorical reading of this God's eye perspective whereas the considerations of this paper are concerned with a literal reading: just as Quine argues that the mind cannot be apprehended by the God's eye view of science, I argue that there are problems in accounting for how the mind can be apprehended by the detached perspective of God – God, the actual being.[20]

The problem here is distinct from that concerning knowledge *de se*. Certain incompatibility arguments focus on the indexical nature of some beliefs: I have the belief that *I* covet the chainsaw, not just that somebody does – and, the argument goes – not even God can come to have such knowledge since God cannot *be* me.[21] My argument, however, does not focus on indexical thoughts, but on thoughts that can be shared by various thinkers. Many of us can believe that Bosch chainsaws are objects of desire, but the question that concerns us here is how God can come to understand that this is the content of our belief.

Perhaps the picture must be something more like the following. Divine intuition must involve God coming to see through our eyes, somehow inhabiting our mind and having first-hand experience of

[20] There is some scriptural support for the claim that God cannot understand evil thoughts – thoughts that would be incompatible with his omnibenevolence – and some theists defend the notion of divine impassibility, where God cannot experience (or understand) human negative emotions and suffering. My concerns, though, are wider; they focus on tensions in the picture of the divine understanding of all human thought.

[21] See Grim 1985.

our mental states. (A picture perhaps suggested by Qur'an 50.16: '*God* is *close* to man, nearer to him than his *jugular* vein.') Whether this is illuminating, though, depends on just how such a picture is understood. It would not be enough for God just to be acquainted – even from the inside – with our thoughts. This is the core of Wittgenstein's rejection of Cartesianism. God's knowledge of human thought should not be seen as akin to God having an access-all-areas pass to our private Cartesian theatres, reading off the meanings of the symbols he finds paraded there. 'If God had looked into our [Cartesian] minds he would not have been able to see there whom we were speaking of' (1953: II, 185). Such a picture of thought is still magical, however closely God is acquainted with our minds. If God somehow inhabited our mind and was acquainted with the mental states there, he would not – from such acquaintance alone – be able to ascertain the content of our thoughts.

The purpose of this paper is to highlight tensions in a common picture of the divine mind, one that forms part of the conception of the omni-God. God is seen as having propositional thought and as knowing every true proposition, and he is able to have such knowledge via direct intuition. I have argued, though, that in the context of God's knowledge of other minds, this picture seemingly adheres to an unacceptable magical theory of reference. I suggest, then, that we need to think more carefully about the model of the divine mind and particularly about how God can have knowledge of our minds. And we need to get this right because much of religious significance depends on such knowledge. In order for God to be able to help us, answer our prayers, guide us, judge us and forgive us he must be able to understand our thoughts. Further, as John Kvanvig (1986) argues, to be unconditionally loved by God requires that nothing is hidden from him. My suggestion, then, is that empathy needs to be included in the picture of the divine mind.[22, 23]

[22] Rogers also suggests that some kind of empathy needs to be included in our picture of the divine mind: 'As a movie-goer I can appreciate the gangster's joy in the violence which expresses his personal power and freedom without literally doing the things he does and without (I hope) incurring the guilt that, were he a real human being, he would incur. I can understand, and in a sense even share, his feelings, without being him or even being at all like him. Perhaps God is the perfect audience, able to understand and appreciate our feelings fully, without becoming us or becoming like us' (2000: 88–9). It is not clear, though, how such empathy is possible without God in some sense becoming like us.

[23] Thanks to audiences at the *Minds: Human and Divine* conference in Munich, the *British Philosophy of Religion* conference in Oxford, the philosophy research seminar

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at Oxford Brookes, and to Bev Clack, Yujin Nagasawa, Stephen Boulter, Tim Chappell, and Daniel de Haan for help and encouragement with the paper. This paper was originally presented in Munich, at a conference for the Analytic Theology Project, generously funded by the John Templeton Foundation.

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AGENT-CAUSATION AND PARADIGMS FOR GOD'S KNOWLEDGE

CHRISTINA SCHNEIDER

Ludwig Maximilian University Munich

Abstract. The article aims at formulating a philosophical framework and by this giving some means at hand to save human libertarian freedom (due to 'agent-causation'), God's omniscience (viz.: three paradigms of God's knowledge) and God's 'eternity'. This threefold aim is achieved by 1) conceiving of an agent as having different possibilities to act, 2) regarding God's knowledge – with respect to agents – not only as being 'propositional' in character but also as being 'experiential': God knows an agent also from the 'first person perspective', as the agent knows herself, and, 3), formulating 'eternity' and 'temporality' as being homeomorphically related to each other. This gives rise to a coherent interplay that saves both human libertarian freedom and God's omniscient 'view from eternity'.

Agent-causation, and, associated with it, libertarian freedom give rise to several coherence problems. As it seems, the most important one is agent-causation and libertarian freedom embedded in an otherwise 'scientifically' understood universe. Within a physicalistic or materialist framework, the problem is not 'resolvable'. Taking a non physicalistic stance towards 'mental states' or 'persons', however, gives means at hands to resolve the coherence problem. The present article is not about *this* problem. It can be overcome as the author has shown elsewhere. Rather, the resolution of this problem is presupposed in the present article. From a technical point of view, some models formulated to overcome *this* problem are *used* and explicated here. To keep the presentation tight and simple, mathematical details that may be found at other places are largely avoided. Instead, the presentation in this article avails itself of commented pictures.

There is another, much older, coherence problem with libertarian human freedom and so with agent-causation: the relation of God, of His

omniscience, to human (libertarian) freedom, and, *a fortiori*, to agent-causation. Albeit this problem naturally does not present itself within a 'physicalist' framework, it is a serious one.

Attempted solutions to this problem tend to have important consequences of how to conceive of God, His 'temporality' or 'eternity', His goodness, His power, His relation to His creation, His independence of His creatures, His 'transcendence', His own freedom, and so on. Attempted solutions may also affect the notion of human freedom itself, as different compatibilist solutions demonstrate. Leibniz' solution, presumably, is one of the historically most famous ones, and it is a 'compatibilist solution'. The Molinist solution is not compatibilist in spirit. Instead, it tries to reconcile God's omniscience and libertarian human freedom. Therefore, it serves in the present article as a starting point.

The present article does not attempt to resolve the problem of agent-causation, freedom and God's omniscience. This would presuppose a refined theory of God and His relation to His creation, not least to clarifying what 'creation' means. It attempts only to indicate a species of knowledge that is both important for God's knowledge of free human acts and somehow overlooked in the contemporary debate – at least, it is not taken as seriously as it deserves. In a slightly different context, however, this kind of knowledge is taken seriously, see, e.g. O'Dea (2002), Perry (2001) and Schärtl (2012). Taking care of this species of knowledge may contribute to conciliating God's omniscience with libertarian human freedom.

The title of the paper uses the word 'knowledge'. A Gettier-style 'definition' of knowledge as 'true, justified belief' is clearly not adequate for God. He has no 'beliefs' – pace open theists of sorts – nor has He to 'justify' anything and what He 'thinks' is 'true', *simpliciter*. Instead of one or another 'definition' of knowledge, the article exploits only *paradigms* of knowledge.

The article has five sections. The first sets the stage for the reflections to follow. The second section is about the aforementioned important paradigm of knowledge. The third formulates the relevant features of individuals as agents. The fourth section addresses the question whether this formulation avoids determinism and lawlikeness even in situations of deliberation. Avoiding this, is a criterion of adequacy. These considerations take up again the three paradigms for God's knowledge and serve as a criterion for the viability of the proposals concerning agent-causation made so far.

The present article takes – at least provisionally – a definite stance towards the 'temporality' or 'eternity' of God. It favours 'eternity', in contrast to authors as e.g. Hasker (1989), Sanders (1998), Boyd (2000), and Rhoda (2011). But it does not argue the issue. Rather, to serve as a second criterion for the adequacy of the proposals made in this article – especially those concerning the differences of God's ways of 'knowing' – it formulates a model that combines God's view from eternity on enfolding or acting individuals with respect to temporal order. This is the content of the fifth section. Whether this model implies either solutions or problems with respect to the relevant 'attributes of God' of one or the other sort, may be a topic of further investigation.

I. A MOLINIST CANVAS

In recent years, philosophers of the analytic tradition formulate Molina's theory of *middle knowledge* within the framework of *counterfactual conditionals*, for a detailed account, see the article of G. Brüntrup und R. Schneider (2011). The formulation is semi-formally as follows:

(1) God knows for each circumstance – C say – how an individual, P, would act, A, if it finds itself in circumstance C.
(2) God 'creates' circumstance C.
(3) P does A.
(4) And, consequently, God *knows* it.

As it stands, this does not look as if the individual *P* acts freely. It is God who has the choice among different possibilities (different circumstances) *C*. But, given *C*, the individual does not seem to have alternatives to act. Some authors do not write simply 'God *knows* for each circumstance – *C* – how an individual, *P*, would act' but 'God *knows* for each circumstance, *C*, how an individual, *P*, would *freely* act'. If 'freely' should be more than philosophical foot-stamping, the individual itself, must be given different possibilities to act for *each* circumstance *C*, at least. This, however, has consequences with respect to the paradigm under which we conceive of God's 'knowing'.

The Molinist 'solution' is much like the deterministic paradigm of *differential equations* together with initial conditions. Together they determine uniquely each state of the 'universe', determine uniquely whole histories. God sets the initial condition, the rest *follows*. One may call this conception of a relevant individual a Leibnizean *complete concept*.

In this circumstance, the paradigm of God's way of knowing, is somehow like solving differential equations or at least like logical inferences. Of course, God must not do that step by step, God 'grasps' infallibly the respective relations 'at once'. Metaphors pointing at intellectual activities seem more appropriate than those pointing at sensual activities – as 'seeing'. The paradigm of knowledge in this circumstance can be called '*inferential intuition paradigm*'. This sounds much like a red herring, but it should indicate the paradigm of (logical) inference on the one hand and that it does not 'take any time' of sorts ('intuition'). This situation, if no other species of 'knowing' is relevant for God's omniscience, hosts problems for human freedom: there is none. But it displays no problems for the attributes one tends to assign to God: Omniscience, a-temporality or 'eternity', immutability. Further, in principle, humans could do the same, they are only restricted in grasping which initial condition is the case, in grasping the complete history; they could be erroneous in their inferences – and all this takes time.

The situation changes if for each of the different conditions, individuals have different possibilities to perform, i.e. different possible histories they may somehow realize: Each condition initiates a myriad of branching possible histories an individual may undergo. The ensuing possible histories do not merge, two different initial conditions may not lead to a common possible episode of their ensuing possible histories. This situation – what initial condition leads to which myriad of branching possible histories – God can know by *inferential intuition*. But, if He creates a condition C^*, the individual has different possible histories to undergo and it undergoes one and only one thereof. If God knows – and He does by omniscience – which of the possible histories ensues, then the paradigm of *inferential intuition*, is not appropriate. In this case, the metaphor of 'seeing' seems to be appropriate, as Leftow (1991) argues in his book. The paradigm of knowing the difference of actual and merely possible histories may be called, albeit it is not a fine word, '*observational intuition* paradigm'. In this situation, an individual has different ontological possibilities, one of these will be 'actualized'. One may call this conception of a relevant individual a *possibilistic complete concept* (cf. Brüntrup and Schneider 2011) This way of 'knowing', in principle, is also open to humans: of course, they are restricted in what they may 'see', restricted in their empirical access and scope, they may interpret their 'seeings' wrongly, they may be deceived by their senses, and they are prone to diverse empirical fallacies – and all this takes time.

Is this enough for human freedom? Do these two versions of knowledge exhaust the relevant paradigms?

II. EXPERIENCE?

Both paradigms, *inferential intuition* and observational *intuition*, are anthropocentric in the aforementioned sense. Of course, as paradigms, they are necessarily bound to a human framework, that is not avoidable. But they are so in a fallacious way: They conceive of God's knowledge of human actions as an external affair – God as an external 'observer', as will become clearer soon. God somehow knows of human actions in principally the same way as do other humans – only 'infinitely more perfect' and 'a-temporally'. Both paradigms point to what often is called 'propositional knowledge'. If they are used with the tacit assumption that what is known by God under the paradigm of *inferential intuition* or *observational intuition* or both is *all* there is to be known – even for an omniscient God – then one conceives of individuals as a Leibnizean or a possibilist *complete concepts*.

Of course, the 'observational version' raises problems, problems that are disputed: Given the assumption that God has knowledge by *inferential intuition* of all possible histories an individual may undergo and, given the further assumption that one and only one history is 'actualized' and that only 'created' things may become 'actual', then there are problems concerning the temporality of God, the immutability of God (Does He learn something 'new', when an individual's history proceeds as it does?), the 'causal' relationship between God and its creatures – if there is any – and so on.

What seems hardly (but, see the short remark above) to be questioned is conceiving of God's knowledge as propositional knowledge, as it is indicated by the paradigms above. But, a remark of Thomas Reid's is worth being remembered (Reid 1788, from, Van Inwagen and Zimmerman 1998: 226) in the present context:

> From the consciousness of our own activity, seems to be derived, not only the clearest, but the only conception we can form of activity, or the exertion of active power.

This quotation concerning *agent causation* is not only a very short argument for assuming something like that, it hints to a more general feature of conscious beings of which 'consciousness of activity' or of 'acting' are only cases. The famous *dictum/question* of Thomas Nagel

'What it is like to be a bat?' hints more explicitly to this feature: There are experiences of human beings that are authentically and fully transparent to no other human being except to that human being who has it. This does not hold only for the awareness of acting 'now', but also for other experiences – qualia are points in case.

This is not new but of importance concerning the exhaustiveness of the two paradigms of knowing. If there are other non-zombies than the author of this article, then there is more to be known about them than propositional knowledge – as being propositional – can grasp. This kind of knowledge may be called *experiential* and it is knowledge that may be had only by the individual itself of itself. If God is omniscient with respect to its creation, then He must have authentic knowledge of the different 'what-it-is-like-to-be ... -nesses' of His creatures – as far as they have them. This paradigm of knowledge may be called *experiential* paradigm.[1]

Of course, this paradigm of knowledge is not restricted to the experience or consciousness of an individual's 'acting now', this experience, however, is related to agent-causation and freedom. If this paradigm of knowledge should be relevant for agent-causation and freedom, individuals that may act in the strong sense of agent-causation must be formulated in contrast to individuals as complete concepts, Leibnizean or possibilist.

III. INDIVIDUALS AS AGENTS

As mentioned above, the problem of agent-causation is foremost regarded as a problem concerning the coherence of what might be called the 'inner life' of an individual, or as Lowe (e.g. Lowe 1999: 8) would say, the 'self' and its environment that may be called 'physical'. Given an appropriate model of a 'self' and its environment, the coherence problem may be overcome, as has been argued elsewhere. Crucial for the model is, among other things, that a 'self' or the 'inner life' of an individual is regarded as the coordinated 'bundle' of all its *possible* histories, one and only one of which will be actualized or *brought about* by the individual during its 'lifetime'. In this regard, it fits well to the present problem.

[1] To avoid tedious formulations, instead of speaking about 'God's knowledge under the paradigm of inferential intuition, of observational intuition, of experiential knowledge' the phrases 'inferential knowledge', 'observational knowledge' and 'experiential knowledge', respectively, are used.

3.1 Modelling Agents

Depicting the model for one individual, one ends up with a figure like the following:

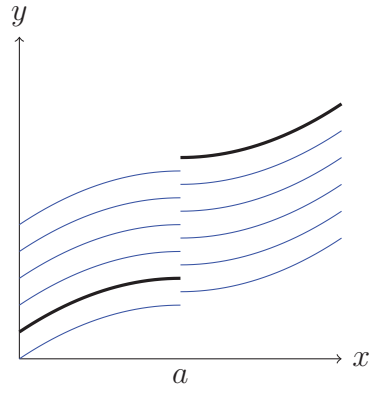

Figure 1

In what respect may it shield from the 'solving differential equations paradigm'? In what respect does it express the act, the bringing about of the individual?[2]

Figure 1 above shows a 'bundle' of lines, depicting different possible histories of one individual. These bundles, however, are interrupted at a point, marked *a* on the *x*-axis, and the lines on the left side and the right side of this point display, at least visually, discontinuity.

The actual history, depicted boldly in the figure, displays discontinuity of sorts. If one zooms in this figure, one arrives at figure 2:

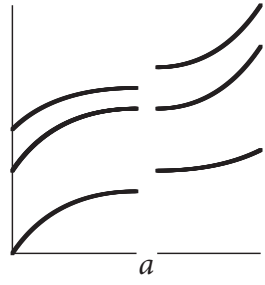

Figure 2

[2] It should be remarked that the model and the figure may be modified as to cope with 'branching histories' also, but this would complicate matters too much and is not important for the present task.

Here, one sees an exaggeratedly depicted gap on the horizontal axis (henceforth also called *x*-axis) and three 'continuous' lines on the left side of the gap and three on the right side. The middle lines on both sides of the gap seem to be joinable in a 'continuous' manner. The other lines do not. Concerning the 'discontinuous' lines, this means that at the gap an act takes place. The gap indicates a possible act. Concerning the middle lines that may be joined continuously, this is to be interpreted that it is also possible that no act may take place at this *locus*, better: the individual *refrains* somehow actively from acting.

Most important, however, is the – exaggeratedly depicted – gap on the *x*-axis separating the right curved lines from left ones. It symbolizes the act. Interpreting the x-axis as 'time', then, at the gap – symbolizing the act – the 'flow of time' is interrupted. That means an act has 'no time', is not an instant of time, nor is it 'at' a time. But it is related to 'time' as there is 'time' before the gap and after the gap; but there is neither a 'last instant of time' before the act nor a 'first instant' afterwards. Mathematically speaking, unduly coarse grained, the phases 'before' and 'after' the act are open (and also closed) sets. In themselves, they are depicted continuously and uninterrupted, symbolizing that in these phases no acts take place. This means that an individual is not and can not be acting 'all the time'.

3.2 Three paradigms – again

With respect to the three paradigms of knowledge, three situations, due to acting, can be distinguished. The picture above shows no bold lines but a gap. To 'know' only this, God's inferential intuition would be sufficient. According to that paradigm of knowledge, He may know what histories are possible and 'where' the individual may act. The next figure 3, with bold lines on both sides of the gap, indicates that the individual has been actual at the bold line on the left side of the gap and 'brings about' by acting its continuation on the right side of the gap:

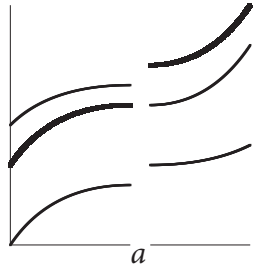

Figure 3

This situation, taking care of the bold lines, is knowable, both, on the line of *observational intuition*, focussing only on what is going on 'before' and 'after' the gap. To know that there is a gap, that is that past and future are conjoined by an individual's act or by its refraining from acting and not by a simple performance, is known by *inferential intuition*. Knowledge, however, of the individual's deliberation process – its intellectual as well as its experiential and emotional aspect – e.g., or knowledge of whether the act was set due to deliberation or due to pure spontaneity, say, is *experiential* knowledge. This can be had only by the acting individual itself and, due to His omniscience, by God. In this sense, God has a sort of knowledge that is not available to humans other than the acting one in a principle way. Humans do not 'know' 'what it is like to be a bat' or what 'it is like to be another individual'. *Experiential* knowledge is not grasped by the figure above.

3.3 What is to Swallow?

Depicting the possible histories of individuals as lines, i.e. as one dimensional, reduces, of course, individuals to their possible and actual inner lives. This is enough for the present purpose, since acting with respect to an otherwise 'physical' environment is not dealt with in this article.

The *possible* inner lives are to be interpreted as individuated partly by the different possibilities the environment or – holistically – the universe may realize. They are, partly, the 'psychic' reactions to the different possible environments an individual may find itself in. The other part, the way the individual may react on different environments – differing from individual to individual, even if, strictly speaking impossible, situated in the same environment – belongs to the individual itself. That means, 1) the universe is conceived of as a 'bundle' of possibilities and 2) the inner life of an individual is conceived of as a bundle of possibilities, due to the different environments the individual may find itself in as well as to its internal 'psychic' possibilities to react. One may interpret this that each possible environment co-individuates 'psychic' possibilities of an individual.

The individual is able to act at certain 'instances'. Acting can only ensue from an actual phase. Each act ends up in actualizing both, a possible environment the individual 'wants' to find itself in in the near future and the actualization of its 'psychic' possibilities to react on it internally. The 'continuous' phases between two possible acts may be interpreted as an individual's 'passive' internal responsiveness to its environment.

Concerning actual inner lives – the bold lines – these are meant to include anything that is relevant for experience, may the source of it be internal or external, may it be 'memory' of its own then actual past – as 'memory' – or thoughts. For a finite human individual, experiential knowledge presupposes a minimum of actual awareness of its inner live, albeit unconscious traces of its then actual past and its environment may contribute to the 'shade' of experiences.

Since God is omniscient, His experiential knowledge of His creature's experiences are experientially fully transparent to Him – He has full experiential knowledge of it. He not only 'experiences' what the individual experiences but also any trace that is relevant for an individual's way or 'shade' of experiencing, may it be conscious or unconscious to it. Especially, each experiential knowledge includes experiential knowledge of each past experience of an individual in full transparency.

IV. FREEDOM – DELIBERATION – DETERMINISM AND 'LAW'

If this model should be viable, the next question is, why should this way of conceiving of an individual as an agent save the libertarian freedom of the individual. In what way does it ban the 'solving differential equation paradigm' or the 'chancy propagation paradigm'? This is the first criterion. The focus will be on 'determinism'.

Famously, van Inwagen once argued that libertarian freedom is inconsistent with both a deterministic universe and an indeterministic one (Van Inwagen 1998, 2002): his consequence argument and his argument from repeated individual histories. Albeit the second argument is flawed on technical reasons, both point at serious problems for libertarian freedom. If the world would be deterministic, humans would be like *puppets on a string*, if the world would be indeterministic, humans would be like *gambling machines* of sorts.

The problem with determinism is that there is no libertarian freedom, as it is with indeterminism. The problem with indeterminism shows up when putatively free acts are taken to ensue from rational deliberation. In this case, the argument runs roughly as follows: Even if the relevant individual is faced with different 'ontological' possibilities, a rationally well-deliberated decision aims at a unique situation. This situation 'is brought about' by the ensuing action (presupposing that it is successful as it was planned and wished by the relevant individual) is a consequence not only from the external circumstances an individual finds itself in, but also from his desires, beliefs, experiences, 'memories',

may they be conscious or not. It is uniquely determined by the history of the individual (its internal as well as its public aspects 'before' the act) and therefore, a rationally and fully deliberated action is a deterministic event of sorts.[3]

In his book *Time and Eternity*, Brian Leftow tries to demonstrate by examples, that even if

> for all agents S and acts A, even if S does A freely, any agent qualitatively identical with S would do A in a situation qualitatively identical with S's (Leftow 1991: 257)

the agent A is free in that he may have had different alternatives for acting. Whether this should hold for any agent and any situation, may be disputed. It should, however, hold, if the act is fully rational and deliberated. In this case, the whole deliberation process belongs to S, and so does the final decision.

If this intuition should be correct, then a difference between the Lewisian counterfactual situation and the situation described by Leftow must be clarified. The Leftownian counterfactual version is associated with the paradigm of 'solving differential equations'. This is the paradigm for *lawlike* deterministic dependencies. The task for resolving the problem of freedom and deliberation therefore is to formulate the difference between 'uniqueness' and 'lawlikeness'. 'Lawlikeness' generally is assumed to come in two versions: deterministic and indeterministic lawlikeness. Both are in conflict with freedom and deliberation.

So, as indicated above, the question and problem of determinateness of decisions, of rationally fully deliberated decisions, and ensuing acts dwells on the often felt conflict of 'freedom and control'. Is rational deliberation a case of problematic determination, leading to determinism? If this would be the case, then the individual's act was not 'up to it' – some sort of 'internal law' would simply unfold – as the citation of Leftow's above indicates. The individual would be like a *complete concept* of sorts. An adequate model of agent-causation must avoid this.[4]

The case of unique determinateness by deliberation is a problematic one: Being uniquely determinate by deliberation is in itself not a vice – it is a sign of rationality. But, what does distinguish this unique and definite

[3] D. Lewis may be one of the most prominent adherents of this line of thinking (Lewis 1986: 2-8). Compare also the short analysis of Leftow (1991: 258) concerning the inter-definability of the counterfactual conditional 'might' and 'would', as proposed by Lewis. A more comprehensive overview may be found in Fisher and Ravizza (1998), and Widerker and McKenna (2003).

decision from a 'lawful propagation', conceived of as a 'deterministic law', prone to the 'solving differential equations paradigm'?

'Lawful' determination is far stronger than uniqueness of a decision to act: At least in deterministic situations, 'lawful determination' implies uniqueness, but not vice versa. What does distinguish 'lawful unique determination' from uniqueness by deliberation?

There are two important paradigms of 'lawfulness' in 'deterministic' contexts: On the one hand, as mentioned above, the paradigm of 'initial conditions, together with laws lead to a unique future state'. On the other hand, the paradigm of 'unfolding somehow like an algorithm', like a computer-program that is executed and exercises a step-by-step 'law of propagation'. The first is at stake here.

The core of lawlike propagation, even with respect to rather liberal assumptions, may be dubbed as '*all in one and always the same principle*'. A propagation is 'deterministically lawlike' if there is *one* 'function' that ties *at once all* 'instances' or 'states' and 'times' together. This 'function' expresses the *law of propagation* (in Leibnizean terms: it expresses the complete concept of the individual in question). Formalizing this, leads to something as follows (leaving mathematical detail to one side):

- Let S be the set of 'possible states of an individual' and T or R 'time'.
- Let Φ be a function $R \times S$ mapping the pairs (t,s) (an instant of times, t, and a state, s,) to a (further) state s^*, $\Phi(t,s) = s^*$. Φ is the law of propagation. It expresses what state will be reached or has been the case an interval of time of length $|t|$ before or after a state s. Further:

$$\Phi : R \times S \rightarrow S$$

with $\Phi(0,s) = s$ (to be interpreted as 'being in state' s)

and $\Phi(t+r, s) = \Phi(r,\Phi(t,s))$ (this is the 'law of propagation'; it means, e.g., that starting in a state s, going, first t 'times' ahead, reaching a state s",

[4] The other variant is that there are several possibilities to act, none of which is definitely chosen – on whatever reasons – by the individual's deliberation. Nevertheless, the individual acts in one of the loosely reflected possible ways and, of course, there is only one actuality to show up. In this case, the individual's acting has something 'chancy'. But this is not a major problem. This situation may well be interpreted as being partly chanceful and of minor rationality. If this situation should be 'stochastically lawful', however, the individual's propagation, its historical way, must then be conceived of as a stochastic process of sorts. The individual would then be like something that may be called 'stochastic' *complete concept*. This too, must be avoided by an adequate model of agent-causation.

say, and then, starting in *s*", going *r* 'times' ahead, ending in state *s**, say, is the same as starting in s and going *s*+*r* 'times' 'at once' ahead).

With this, the following holds:

$$(\exists_{t\in T}\ \Phi(t, s) = \Phi(t, s')) \Rightarrow s = s'$$

If there is a time *t* and states *s* and *s'* with $\Phi(t,s) = \Phi(t,s')$, *then* $s = s'$. This clause reflects that the law of propagation is 'deterministic" – no branching takes place. The graph of the function $\Phi(t,s)$ (*t* as variable, *s* fixed)

$$\{\Phi_s : R \rightarrow S,\ \Phi_s(t) = \Phi(t, s)\}$$

corresponds to a possible history. Different possible histories do not intersect and are *complete concepts* of individuals.

This way of modelling reveals the '*all in one and always the same principle*' relevant for 'lawlikeness' – expressed by the function Φ.

In the model presented here, the core of an act is a 'rupture' of sorts, a gap, with respect to its 'past' and, due to topological assumptions, the acts do not happen at 'instants of time'. Therefore, this paradigm is explicitly avoided by the present attempt. Moreover, there is nothing in the model that prevents two exactly equal phases of an individual's histories during the phase 'just before' the act is set, to be 'un-smoothly' continued by two different phases. In both cases, however, the respective choices are unique.[5]

So, the paradigm of 'lawful deterministic propagation' as exploited here, includes very strong further assumptions. If incorporated, it would lead to other models of an individual's 'inner life' – models that would depict intuitions that are hostile to agent-causality and to freedom. Moreover, anything to be 'known' *in principle* of an individual would be a public affair, propositional knowledge would be enough. In the end, this means, individuals are conceived of as *zombies*.

Moreover, if the histories of individuals proceed lawlike in the above formulated deterministic way, the only paradigm of knowledge relevant for God's knowledge is *inferential intuition*. He simply must know Φ and the condition He creates – *C*. This is a *Molinism* of sorts.

[5] Albeit not discussed presently, it should be noted that the algorithmic version is not reflected by the model presented in this article either, due to the circumstance that time is topologically not discrete. It would be a discrete version of sorts of the '*all in one and always the same principle*' as proposed in the preceding paragraph. It also would be a rather strong further assumption that could only be captured by a strong modification of the model of agent-causation and freedom.

The model as presented here, faces each individual in its phase 'before' the relevant act with different possibilities to act for. So, if deterministic lawlikeness is blocked by the 'gaps', the question remains, due to the different possibilities open to the individual, whether its acting history is somehow indeterministically or stochastically lawlike. The 'somehow' refers to the assumption that each act and each aim to be acted for is uniquely chosen by deliberation, and so, the probabilities playing a role in indeterministic or stochastic lawlikeness may be degenerate, i.e.: they may have only the values 1 and 0. And so, one may wonder whether by imposing degenerate probabilities to express the acting uniquely for an aim at each 'gap' lawlikeness is smuggled in. This is not the case. To keep the presentation technically simple, the mathematics relevant for seeing this are not discussed in this contribution.

V. THE VIEW FROM ETERNITY

Having considered so far the difference lawlike behaviour makes with respect to simple definite deliberation, this difference should be applied to 'God's view from eternity'. In the preceding section, the difference it makes to the paradigms of knowledge was only hinted at. As will be seen, this difference may be made more explicit. This difference has to do with 'temporality' and 'eternity'.

In advance, however, briefly mentioning the following, more serious problem is necessary: How to formulate or depict what *experiential* knowledge is about? Or, how to formulate or depict what is 'going on inside' the acting individual. As noted above, figure 3 does not depict this. And it is not to be depicted somehow, since it is transparent only to God and the relevant individual, not to other human individuals. In short: It is not public. Therefore it can not be formulated or depicted in the public mode. Fortunately, the consequences of this species of 'knowable' and knowledge, especially with respect to temporality and lawlikeness, may be formulated or depicted in a public way, and so, the assumption that the experiences of an individual are in need of a third sort of knowledge on the side of God, and that this sort of knowledge makes a difference that may be qualified.

The following is inspired by the work of Leftow (1991) and Kretzman and Stump (1992) in that it takes up the intuition that what is going on in temporal order within the 'created world' is somehow eternally or a-temporally 'present' in 'eternity', without losing relevant features.

The most important thing to do for that end is to get rid of a 'natural' temporal order, retaining homeomorphically other relevant structures, on the one hand, and 'knowing' it – by observational or experiential knowledge – 'in eternity', on the other hand. Whether this temporal order is 'knowable' by knowledge conceived of under the paradigm of observational or experiential knowledge makes the difference of 'knowing' a 'temporal' stochastically lawlike going on or a going on 'in time' due to acting by deliberation.

The formal background of the pictures to follow is the so called *Alexandroff-Compactifaction*. The simplest example thereof, and this is enough for the present model, is that the reals or open intervals thereof are homeomorphic to the circle, omitting the *north-pole*, say. The *mutatis mutandis* same holds for the 'lines' depicted in the preceding section.

Depicted homeomorphically on a (here) 'leaf', the whole history due to agency and deliberation comes as a flower:

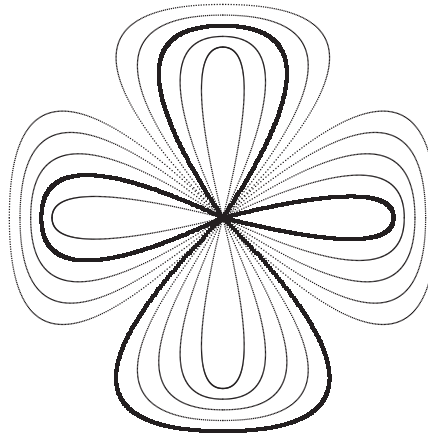

Figure 4

Each leaf of that flower is the situation of one phase of the history. Lines depicted boldly are the actualized possibilities, whereas the light lines are the possibilities not acted for. God 'observes' the difference of possibilities and actualities. But 'observing' is not enough to get the whole history, there is no natural 'temporal' order to be seen. What is the historically first phase? The left leaf? The right leaf? The leaf ahead? Due to the presence of different possibilities, inferential knowledge does not help either.

The stochastically lawlike situation, however, presents itself differently:

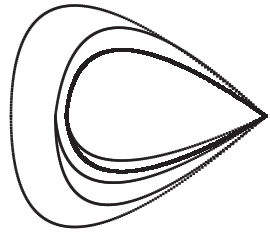

Figure 5

Here, only one leaf is observed – this is due to lawlikeness; the story does not start a new at each phase. But an order may be discerned: As before, there is a difference between possibilities and realizations (these are depicted boldly), but the branchings follow from right to left (anti-clockwise), may they be possible or realized. By inferential knowledge of the stochastic laws, it follows that the number of branchings increases as time goes on. And so, by a combination of observational and inferential knowledge, the history is 'known' as it proceeds in temporal order.

Going back to the case of agency: By 'inferential knowledge' it is known that there are four phases and that in each phase one and only one possibility is actualized. Combining this with the observational knowledge of what is actualized, the flower above becomes a bouquet:

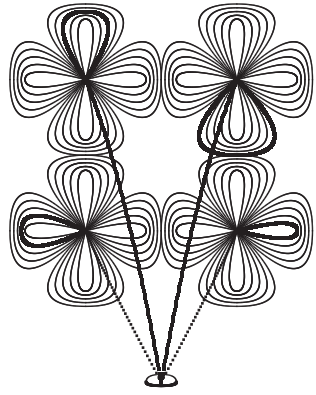

Figure 6

This, however, gives no temporal order. To 'know' the temporal order, experiential knowledge must enter the scene. Due to His omniscience,

also with respect to His experiential knowledge, God's experiential knowledge of each of the individual's experiences *includes* in full transparency the experiential past of the individual's experience, may it consciously enter the individual's experience or not. With this, one arrives at the bouquet to follow and to a temporal order, just count the leaves with bold lines in each flower:

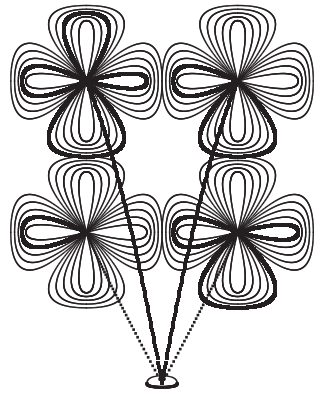

Figure 7

VI. FINALLY, SOME SPECULATION

As a side-effect, to demonstrate that agent-causation – associated with 'experience' – does make a difference not only for 'temporal' propagation on behalf of created individuals, but also for God's 'eternal' knowledge, a model of how to conceive of the relation of 'temporality' and 'eternity' was presented. As far as the model goes, it shows that both intuitions may be combined coherently. This has consequences not only for agent-causation and God's omniscience, but also for His 'relation to His creation'.

Even if accepting the model of agent-causation and the difference agency makes with respect to 'temporal propagation' and an individual`s experience on the one side and God's different ways of being a-temporally omniscient about all this, some philosophers may be inclined to question whether the acts of the individuals, structurally and psychically different as they may be from pure performance, are *up to them*. In the end, by His unrestricted *power*, it is God Himself who – by the very act of creation – brings about the acts of the created individuals.

A very extreme case of this intuition is Leibniz' theory of the created world as the *best of all possible worlds*. 'Before' creating, God 'decides'

which one of *the possible worlds* He should create. And so, He is omniscient with respect to *all possible worlds*. This omniscience is not restricted to any 'ontological' detail of the *possible worlds*, it extends to their respective degrees of 'perfection' and 'goodness'. God's perfect knowledge of all these aspects, together with His goodness, ensues in the creation of the (unique!) *best of all possible worlds*, as Leibniz puts it in his *Dialogus*: 'Cum Deus calculat et cogitationem exercet fit mundus' (see the *present tense*!).

In this – as it seems – the world depends in any of its aspects, its performance, as in its sheer existence on God, on His power. Created, due to God's exerting His power – *His act* – it is extremely one-sided dependent on God, whereas God does not 'depend' in any respect on his creation *as* created.

Further, tacitly assuming that 'creation' as an exteriorizing of sorts, leads to *transcendence* driven to its extreme. This has as consequence that God is, what may be called '*metaphysically* indifferent' – leaving 'moral indifference' aside – with respect to the created world as being thus 'exteriorized'.

If, however, metaphysical indifference should be blocked – on whatever reasons – while retaining strict immutability and eternity, one may be driven to conceive of the created world, of any of its aspects, its performance, as its sheer existence as being 'encapsulated' 'eternally' in God. This is panentheism of sorts.

With respect to both versions – extreme transcendence and pantheism of sorts – the created world, any of its aspects, its performance, its 'history' is without any remainder, due to His *act*, and so there is no freedom for relevant individuals, there is no place for human freedom, neither with respect to extreme transcendence nor with respect to a panentheist framework of sorts.

These consequences, if correct, may be overcome. To this end, some intuitions about the 'world' must be revised and some metaphysical speculation may be allowed: The 'world' is not only a 'net of actualities' but it is also a 'net of possibilities', better: 'potentialities'. These 'potentialities' are to be conceived of as 'real' or 'ontological' or 'existing'. Of course, their way of 'being real' or 'ontological' or 'existing' is different from the way actualities are 'real' or 'ontological' or 'existing'. Within this world, individuals are – among other things – coordinated 'bundles' of their respective 'potentialities'. During their life-time, individuals actualize their 'potentialities', leading to a unique actual individual history. For

this, individuals are not only 'bundles' of potentialities, they must have, among other things, (as e.g. intellect) what may be called 'power', better, following Leibniz: *vis activa*, to actualize at all. One history and only one history among different potential histories is actualized that way – of course *within the framework of their individual potentialities* as well as *within the framework of the potentialities that co-constitute the embedding 'world'*. By this, relevant individuals contribute to the actualization of a 'world history'.

With respect to God's creating the world, one must admit that God creates the framework or 'net' of potentialities. By this, He creates – as substructures – also relevant individuals as coordinated, coherently embedded 'bundles' of potentialities. This is not enough: The *vis activa*, the power to actualize at all, each relevant individual must have, is also (among other things) due to His creating.

This makes, with respect to what is actualized, relevant creatures 'creative' in a strong sense – but only *within the framework created by Him* and due to their 'given' *vis activa*.

That means, on behalf of God's knowledge of actualities, that He can know of them only if they are actualized – and that is due to the creative relevant individuals, exercising *their* power. But, by being a-temporal and, not least, by His 'experiential knowledge', God's omniscience is preserved unrestrictedly.

The sparse models of the article just wanted to hint at the coherence of God's omniscience with respect to freedom, that is with respect to actualization *within the framework of potentialities created by God*, strictly due to *creatures-within-the-framework-created-by-God*. As hinted at above, this attempt is in need of refinement and in need of an embedding and elaborated metaphysical theory, whose core ought to be a 'theory of creation'. And so, some tasks are left – tasks worth pursuing.[6]

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A-TIME BEATS NO TIME
A RESPONSE TO BRIAN LEFTOW

ANNA IJJAS

Harvard University

Abstract. In this paper, I present a new argument against the compatibility of human free will and divine timelessness when conceiving of eternity in terms of an additional dimension as presented by Brian Leftow. The paper is organized as follows: After giving a brief sketch of Leftow's model, I argue that assuming libertarianism, free will presupposes presentism, since metaphysical indeterminism is only compatible with a presentist A-theory of physical time. Given this result, I make a case for the incompatibility of presentism and divine eternity modelled as a frame of reference, implying the incompatibility of the latter with human free will.

I. INTRODUCTION

The problem of reconciling human free will with divine foreknowledge has always been regarded as closely related to the question of defining God's relation to time, since it has been acknowledged that it is at least non-trivial whether God's knowledge of future events rules out genuinely free decisions concerning these events. Thereby, free will is generally understood in the libertarian sense, namely as the ability to do otherwise under the *same* circumstances.

The underlying problem can be set up, for example, this way:

(1) Necessarily, at all times, God believes alland only truths.
(df. omniscience)

(2) God believes now that you will finish reading this paper tomorrow.
(premise)

(3) Therefore you will finish reading this paper tomorrow.
(from 1, 2)

Prima facie, this result seems to imply that libertarian freedom and divine omniscience are mutually exclusive. Thus a proper solution to the freedom-foreknowledge problem has to explain why it is nevertheless not the case.

Traditionally, one tried to block the argument by stating that God is without temporal relations, this means, God lacks temporal extension and thus, divine eternity is to be conceived of as timelessness. Clearly, eternalism implies (~1) and (~2), since both (1) and (2) put God into a temporal relation. In consequence, in the framework of eternalism the above argument has to be modified as follows:

(1e) Necessarily, God believes all and only truths.

(2e) God believes that you will finish reading this paper tomorrow.

(3) Therefore you will finish reading this paper tomorrow.
(from 1e, 2e)

At first sight, there seems to be no real difference between the original argument and the modified one; they both lead to the same conclusion (3). However, so the traditional argument runs, in stating that God is timeless we cannot say that you will finish reading this paper tomorrow because God knew that you will finish reading this paper tomorrow *before* you decided to finish reading this paper tomorrow. Hence we cannot infer from the modified argument that God's fore-knowledge caused your decision to finish reading this paper tomorrow and therefore, you were not free in your decision to finish reading this paper tomorrow, as being perfectly timeless God cannot fore-know anything. Yet we are neither justified in saying that from the modified argument it follows that you will freely finish reading this paper tomorrow, even though God eternally knows of it. The only thing we can infer from the argument is that it leaves the problem unsolved whether you will freely finish reading this paper tomorrow. Thus naturally the question arises if eternalism necessarily ends up with some sort of negative theology, or if it is simply an incomplete argument so that its implication for human free will is to be unfolded.

Currently, the starting point in tackling the freedom-foreknowledge issue has changed somewhat: it is libertarianism that is widely considered to be essential, or to put it another way, the very question has become if and to what extent divine foreknowledge of future events is possible given the ability to do otherwise under the same circumstances. In the

context of both process thought and Open Theism a variety of options has been carefully worked out. The basic argument runs this way:

(1t) Necessarily, at all times, God believes all truths.

(2) God believes now that you will finish reading this paper tomorrow.

(3t) Therefore if you do not finish reading this paper tomorrow, you render that God believes tomorrow that you did not finish reading this paper on that day.[1] (from 1t, 2)

Apparently, there is a price to pay when being committed to libertarian free will. Given freedom, divine foreknowledge needs a basic redefinition, or restriction in some sense, in so far as it is logically impossible even for an omniscient being to have knowledge about future contingents. Needless to mention that such positions have often been accused of not being able to give a satisfying account of divine providence and eschatological hope. In considering these two lines while tackling the freedom-foreknowledge problem, the most natural question seems to be whether we could have it both ways, whether we can make the traditional view of divine timelessness securing foreknowledge and providence compatible with the modern libertarian view granting genuine freedom.

The most prominent contemporary approach to combining divine atemporality with libertarianism has been developed by Oxford philosopher Brian Leftow.[2] Leftow claims that, when considering eternity as a new, additional, and basically non-temporal dimension, divine atemporality becomes compatible with any theory of physical time, particularly with a presentist A-theory. This claim is remarkable, since for libertarianism presentism is commonly considered as a *conditio sine qua non*. To say it another way, if Leftow's model is sound, the eternalist can indeed have it both ways.

In this paper, I question Leftow's claim. The paper is organized as follows: After giving a brief sketch of Leftow's model, I argue that assuming libertarianism, free will presupposes presentism, since metaphysical indeterminism is only compatible with a presentist A-theory of physical time. Having shown this, it is straightforward to make a case for the incompatibility of indeterminism and divine eternity modelled as a frame of reference, implying the incompatibility of the

[1] Note that it is possible to maintain (1) in its original form while considering future contingents to be false. In this case, (~2), but (3t) from (1).

[2] Cf. Leftow (1991b). Further aspects of his model are elaborated in Leftow (1991a), Leftow (1991c), Leftow (2000), and Leftow (2001).

latter with human free will. Finally, I draw my own conclusions for the freedom-foreknowledge problem.

II. ETERNITY AS AN ADDITIONAL FRAME OF REFERENCE

In his *Time and Eternity*, Leftow offers an Anselmian model of the Boethian resolution of the freedom-foreknowledge problem. Unsurprisingly, he starts to develop his theory of divine timelessness with the very idea of Boethius:

ST. God 'sees' all temporal events happen at once.

Assuming that God is omniscient, with (ST) we have to affirm:

ST1. All temporal events occur at once.

As otherwise God's knowledge of events would differ from how they really occur. This, however, 'sits ill with the claim that God is cognitively perfect' (Leftow 1991b: 218). On the other hand, in affirming (ST1), we seem to deny that events stand in earlier-later relations. Yet actual causal relations between events posit a positive temporal distance that rules out temporal simultaneity of these events. Thus, to avoid the unwelcome consequence of (ST1) excluding causality between events, Leftow argues for understanding simultaneity postulated by (ST1) in an *atemporal* sense. A natural candidate for such a concept is, of course, the notion of divine eternity. More exactly, strongly influenced by the concept of space-time in Special Relativity, Leftow suggests to conceive of eternity as 'one more frame of reference, distinct from any temporal frame of reference' (Leftow 1991b: 234). Such an understanding makes it possible to affirm (ST1) without denying the existence of events occurring at different times, as in eternity all temporal events occur at once, while occurring at various points in time.[3]

To work out his proposal more precisely, Leftow first gives a series of definitions (Leftow 1991b: 238–41):

(6) 'Now' is a primitive term. (now)

[3] Leftow gives two main reasons why to assume the existence of such a frame of reference, (1) an argument he calls *Zero Thesis*, and (2) the fact that if God exists, eternity is logically a date, namely the date of God's existence. In this paper, I do not consider the Zero Thesis, in so far (as an additional motivation) it does not contribute to solving the underlying problem. Discussions of the Zero Thesis can be found in Padgett (2001) and Craig (2001).

(7) An event E A-occurs iff E occurs now such that occurring now does not entail having a position in a B-series of earlier and later events. (A-occur)

(8) An event E B-occurs iff E's location in a B-series is *t*, and it is now *t*. (B-occur)

Clearly, if event E B-occurs, E A-occurs, but *not* vice versa. For an event E A-occurs and does not B-occur, if E is not located in a B-series or if E A-occurs and is located in a B-series but does not A-occur at its B-series location. Yet this latter case can only be given, when a temporal event occurs in an atemporal frame of reference.

(9) Two events E_1, E_2 are B-simultaneous iff they have the same location in a B-series in the same frame of reference R. (B-simultaneity)

(10) Two events E_1, E_2 are A-simultaneous iff they are B-simultaneous and they B-occur. (A-simultaneity)

Given (6–10) it becomes possible to make a distinction between temporal and eternal frames of reference as well as temporal and eternal entities:

(11) R is an eternal frame of reference iff R is such that necessarily, all events that A-occur in R A-occur A-simultaneously-in-R. (eternal frame of reference)

(12) R is a temporal frame of reference iff it is not the case that R is such that necessarily, all events that A-occur in R A-occur simultaneously. (temporal frame of reference)

(13) K is a timeless entity iff K can A-occur but cannot B-occur. (timeless entity)

(14) K is a temporal entity iff K can B-occur. (temporal entity)

Accepting these definitions, we seem to have a sound solution how a timeless God can be related to temporal events and entities. However, there is a price to pay for this solution:

> [...] if one holds that God is timeless and omniscient, one has reason to say that the objects of God's knowledge, including all temporal creatures, exist with Him in eternity. (Leftow 1991b: 243)

For Leftow this price doesn't seem very high. Yet, as I shall show in the next section, this price is actually far too high. But let us first complete the reconstruction of Leftow's theory, by presenting his argument for the

compatibility of his model with presentism (and thus with libertarian free will).

According to Leftow, when thinking of divine eternity as an additional, atemporal frame of reference, divine knowledge of future events does not rule out libertarian free will, in so far the model is compatible with both A-theories of time and B-theories of time, in particular with presentism:

> [...] it can be true at a time t that an event dated at t+1 has not yet occurred in time, and yet also correct to say that that every event exists in eternity. That all events occur at once in eternity, I submit, does not entail that they all occur at once in time. (Leftow 1991b: 232)

The argument for the compatibility of Leftow's eternity model with presentism rests upon the thesis of the relativity of simultaneity; it runs this way:

(15) Simultaneity and presentness are relative to frames of reference. (premise)

(16) Present events are actual in some way in which future events are not. (presentism)

(17) Therefore the actuality of present events is relative to frames of reference.

Clearly, from (17) it follows that presentness *simpliciter* cannot be defined if there exist more than one temporal frame of reference. Contrarily, presentness can only be defined relative to a certain temporal frame of reference R. Consequently, Leftow speaks of 'now_R' versus 'now_R*'. In addition, he introduces a non-temporal relation P of causal priority:

> P-series will be constituted of just those causal relations that are absolute and invariant within all temporal reference frames. (Leftow 1991b: 232)

For any event $\tilde{E}$ which is member of no P-series we can find a frame of reference R and an event E in a P-series so that $\tilde{E}$ is B-simultaneous with E in R. Thus we can place $\tilde{E}$ in a P-series by saying that $\tilde{E}$ B-occurs in R at the P-series location of the P-series event E. Note that the existence of P-series allows for the non-transitivity of simultaneity. For consider three events E_1, E_2, and E_3 such that E_1 and E_2 are B-simultaneous and occur before E_3 in the frame of reference R, while E_2 and E_3 are B-simultaneous and occur before E_1 in the frame of reference R*. The P-point at which E_2 occurs in R is P-prior to the P-point at which E_2 occurs in R*. Therefore, if in R it is now_R the P-point at which E_1 occurs, that E_2 is now_R actual in R does not entail that E_2 is now_{R^*} actual in R*. And it is exactly this

result that makes it possible to block the well-known argument stating that (17) rules out any ontological difference between past, present, and future events:

> If we take eternity as one more frame of reference, then, we thus can say that a temporal event's being present and actual in eternity does not entail that it is present and actual at any particular time in any temporal reference frame (though it does follow that this event is, was, or will be actual in all temporal reference frames). (Leftow 1991b: 234)

III. INDETERMINISM CONTRA DIVINE TIMELESSNESS

In this section, I shall show that in conceiving of eternity as an additional dimension or frame of reference, Leftow's account is – despite his claim – incompatible with libertarianism. I begin with reformulating the underlying problem.

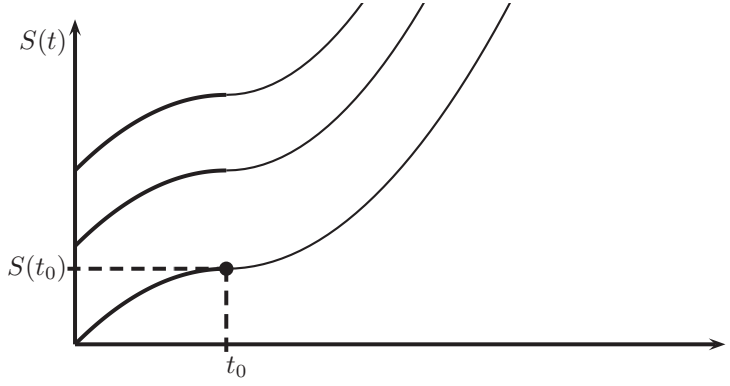

Figure 1: Modeling determinism

3.1 Divine time and free will vs. physical time and indeterminism

Setting the stage, I argue that instead of directly focusing on the link between divine time and free will, we should split up the problem into two parts, and should first discuss if libertarian free will rules out some theories of physical time. Having completed this task, we are left with the – I claim – simpler problem, namely to connect some sort(s) of physical time (compatible with libertarian free will) and divine time. Let us begin with a series of definitions:

(18) An agent has free will iff it can at least sometimes be the case that (a) the agent is able to do otherwise under the same circumstances (Principle of Alternate Possibilities), and (b) the agent acts, or decides to act, for understandable reasons, and (c) the origin of the decision is within the agent.

Clearly, free will is given only if all three conditions are met, and *vice versa*, i.e. if one of these three conditions is not fulfilled, the agent does not decide or act freely. Note that, accordingly, (16a) the Principle of Alternate Possibilities is a necessary but not sufficient condition for free will.

(19) Determinism (D) is the thesis that the state of the world s_0 at some time t_0 and the laws of nature together uniquely fix the state of the world s_t at any time t.

(20) Indeterminism is the denial of determinism (~D).

Although the above definition of determinism is the most common one, it proves useful to work out its implications, particularly the difference between determinism and indeterminism, in a somewhat greater detail than usual. Thus let us take a closer look at the determinism thesis, depicted in Figure 1.

First of all, (D) implies that there is a set **S** of law-like[4] functions S each of which describes a *possible* course of the world, while the value of S at a particular time t represents a possible state of the world at this particular time t. In Figure 1 each curve illustrates such a possible course of the world, while each point of such a curve represents a possible state of the world at a particular time t. Note that according to determinism the course of the world is uniquely fixed and therefore these curves cannot intersect. In principle, each law-like function $S \in \mathbf{S}$ *could* represent the actual course of the world. It is the state of the world s_0 at a particular time t_0 that first determines which law-like function *represents* the actual state of the world; it is the law-like function the graph of which entails the point (t_0, s_0).

Formalizing this proves quite useful. Thus let T be 'time', i.e. any particular point in time is an element of T, and let Z be the set of all possible world states. Then, a law-like function $S \in \mathbf{S}$ describing a possible course of the world does nothing but assign each point in time to exactly one particular world state. In accordance, S always takes the form

[4] In calling a function $S \in \mathbf{S}$ law-like I point to the fact that the natural laws determine (or at least constrain) the exact form of S.

$$S\colon T \to Z,\ t \to S(t)_{df} = s_t, \qquad (*)$$

where s_t is only an abbreviation for $S(t)$ which we introduce for the sake of simplicity. Remarkably, it has often been overlooked that (*) implies the time dependence of world states s_t, or to put it in other words, (D) entails the fact that the course of the world S is a function of a variable we call time t.

For each pair (t_0, s_0), henceforth we call 'present', there is (at most)[5] one law-like function $S \in \mathbf{S}$ the graph of which entails the point (t_0, s_0), i.e.

$$\forall\ t_0, s_0\ (\exists_1\ S\colon S(t_0) = s_0)\ . \qquad \text{(uniqueness of the present)}$$

That is to say, the present state of the world s_0 uniquely determines the actual course of the world. Furthermore, (D) implies that the graphs of law-like functions $S \in \mathbf{S}$ do not intersect, that means, both the past course of the world and the future course of the world is unambiguously fixed by the laws and the present (t_0, s_0). Thus, if two law-like functions S_1, S_2 describe the same present, they describe the same past and the same future and are therefore identical, i.e.

$$\forall\ S_1, S_2 \in \mathbf{S}\ (\exists\ t_0\colon S_1(t_0) = S_2(t_0) \Rightarrow S_1 = S_2). \qquad \text{(D)}$$

Thereby, the unalterability of the past course of the world corresponds to the restriction of (D) to all past times $t < t_0$:

$$\forall\ S_1, S_2 \in \mathbf{S}\ (\exists\ t_0\colon S_1(t_0) = S_2(t_0) \Rightarrow S_{1\ |\ (-\infty,\ t0)} = S_{2\ |\ (-\infty,\ t0)}), \qquad (D_{past})$$

while the fact that the future course of the world is fixed corresponds to the restriction of (D) to all future times $t > t_0$:

$$\forall\ S_1, S_2 \in \mathbf{S}\ (\exists\ t_0\colon S_1(t_0) = S_2(t_0) \Rightarrow S_{1\ |\ (\ t0,\ +\infty\ )} = S_{2\ |\ (t0,\ +\infty)}), \qquad (D_{future})$$

Clearly, (D) is the conjunction of (D_{past}) and (D_{future}), or to put it another way, if the present state of the world corresponds to the law-like function $S \in \mathbf{S}$, the same S represented the past course of the world and the same S will represent the future course of the world.

Contrarily, indeterminism (~D) states that it is not the case that (D). Assuming the unalterability of the past (D_{past}),[6] (D) states that the laws and the present state of the world s_0 do *not* fix the future course of the

[5] Impossible world states correspond to pairs that are not entailed by any law-like function $S \in \mathbf{S}$.

[6] Note that the unalterability (or fixity) of the past need not rule out the possibility of the 'could-have-been-otherness' of the past. Contrarily, (D_{past}) states nothing but the fact

world uniquely. Therefore (~D) is simply ($\sim D_{future}$).[7] In particular, we can find law-like functions S_1, $S_2 \in \mathbf{S}$ that share the (same) past (with regard to a present time t_0), but describe different possible futures, i.e.
$\exists\, t_0 \in T, S_1, S_2 \in \mathbf{S}\ (S_{1\,|\,(-\infty,\,t0)} = S_{2\,|\,(-\infty,\,t0)} \wedge S_{1\,|\,(t0,\,+\infty)} \neq S_{2\,|\,(t0,\,+\infty)})$. (~D)

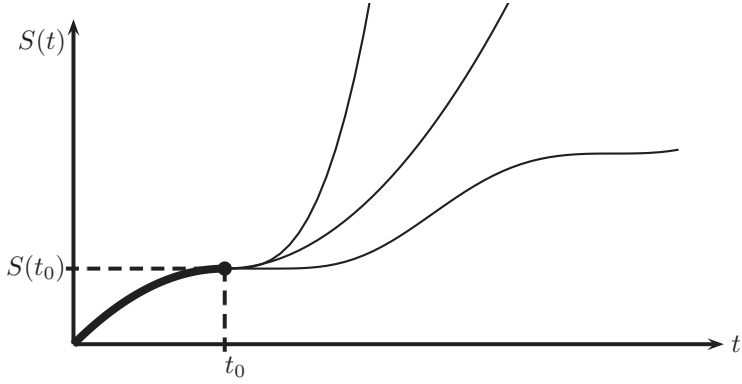

Figure 2: Modelling indeterminism

The idea of indeterminism is depicted in Figure 2: here the present and the laws together do not unambiguously fix the future course of events. Instead, the present entails a bunch of possibilities concerning the future course of events, out of which, of course, only one can be actualized.

The difference between deterministic and indeterministic worlds becomes obvious when comparing Figure 1 and 2. While sharing the same past, the (open) future in an indeterministic world can significantly differ from the (fixed) future in a deterministic world.

(21) Libertarianism[8] is the thesis that free will, or more accurately (18a), can only be realized if (~D).

Finally, we are left with the question whether indeterminism rules out any time theories. To answer this question, we first must clarify how to use the notion of time. However, instead of giving a definition

that once occurred the past is fixed, i.e. there is exactly one law-like function describing the past. Therefore, (D_{past}) also applies to the past in an indeterministic world.

[7] In the case that the eternalist has some doubts whether the asymmetry between our description of past and future world states excludes eternalism by definition, she can, of course, define indeterminism without restricting the unfixity of world states to the future. All proofs in Section 3.1 and 3.2 apply *mutatis mutandis*.

[8] For a similar definition see Van Inwagen (2002) and Van Inwagen (2008).

of what time *simpliciter* is, I suggest that, without loss of essential details, we only consider what it means to be a temporal event (or entity). This restriction has the convenient feature of not affecting the validity of the very argument, while at the same time evading the problem of whether it makes any sense to speak of the existence of time *simpliciter*.

In an illuminating recent essay, Dean Zimmerman formulated two questions 'lying at the heart of the deepest metaphysical disagreement about the nature of time' (Zimmerman 2008), these are, if there are objective differences between what is past, present, and future, and if this difference is an ontological one. Following McTaggart's terminology, those who deny both questions affirm the priority of B-relations (*being earlier, being later*, and *being simultaneous*), while considering A-properties (*being past*, *being present*, and *being future*) to be derivative. In affirming both questions, A-theorists, on the other hand, believe that A-properties are fundamental and B-relations derivative. Transferring these two questions into our context, we face the problem of (i) whether there is a difference between past, present, and future events, and (ii) if this difference is an ontological one. I claim that if libertarianism (21) is true, both questions need to be affirmed.

To see this, let us first formulate the relation between a present (or past) event E_t at the present (or past) time t and the state of the world s_t at t. Clearly, the state of the world s_t corresponds to a family (or set) of events $E^{(1)} \ldots E^{(n)}$ constituting s_t, i.e. $s_t = \{E^{(1)} \ldots E^{(n)}\}$. On the other hand, the uniqueness of the present and the unalterability of the past (D_{past}) imply that for a present (or past) time t there is at least one present (or past) event E_t which corresponds to exactly one present (or past) state of the world s_t, i.e.

$$\forall t \in (-\infty , t_0] \, (\exists \, E_t : \exists_1 \, S \in \mathbf{S} \, (E_t \in s_t = S(t))) \qquad (**)$$

as otherwise we could find two *different* law-like functions $S_1, S_2 \in \mathbf{S}$ both describing the same present (or past) state of the world s_t. Accordingly, the graphs of these functions would intersect in t. This, however, would be a contradiction to both the uniqueness of the present and the unalterability of the past that exclude such an intersection. This, in turn, means that such a single present (or past) event E_t is sufficient to fix s_t, insofar as there is exactly one present (or past) state of the world s_t corresponding to E_t.[9]

Now, recall that according to (21), (~D) is a necessary condition for someone to satisfy (18a), and suppose that (~i). Then we can arbitrarily

choose an event E_t (happening at time *t*) to be a present event. However, from (**) we know that there is at least one E_t such that the state of the world s_t is uniquely defined via E_t. Since *t* is arbitrarily chosen, this conclusion is valid for each *t*, implying (D_{past}) and (D_{future}). Thus (D), and therefore (~21).

Let us assume that (i) but (~ii). That means, although A-properties are fundamental, there is nevertheless no ontological difference between a past event, a present event, and a future event. Yet, if all future events exist in the same way as present events, there is a unique corresponding future state of the world, and this for any future times. Again, the conclusion implies (D), and thus (~21).

To sum up, if one affirms (21), one must at the same time affirm both (i) and (ii). Because of (18a), libertarianism rules out all B-theories of time and all A-theories of time denying (ii). Consequently, the only time theories compatible with (21) are presentism, stating that only present events exist, and growing block theory, stating that only past and present events exist. For the sake of simplicity, in what follows I consider only presentism. Note, however, that the argument applies to growing block theory as well.

3.2 Existence: eternal vs. temporal

Having clarified the main concepts involved, in what follows, I shall argue that the Anselmian view of eternity as defended by Leftow fails. Whereas most critics question Leftow's presumptions, I develop my counterargument while accepting the presumptions and criticizing the conclusion.

First, suppose that libertarianism is true, and thus, (~D) is true, and consider an arbitrary temporal frame of reference R, as defined in (12). In a first step, I show that

(22) for (at least) one future event E_t in R there can be no temporal frame of reference R* in which this event B-occurs.

[9] More exactly, the relation between E_t and s_t can be modelled this way: For a present (or past) event E_t described through (**) we can define the (selection) function $E_t : \mathbf{S} \rightarrow \{0, 1\}$, where $E_t(S) = 1$ iff $E_t \in s_t$, that means, E_t 'selects' the law-like function $S \in \mathbf{S}$ the value of which at *t* represents the actual state of the world s_t entailing E_t. From (**) it follows that there is exactly one such law-like function *S*, i.e. $|\{E_t(S) = 1\}| = 1$. To ensure coherence with the past, at the same time we have to demand that $\forall S \in \mathbf{S}\ (E_{t'}(S) = E_t(S)$ if $t' < t)$.

If for all future events E in R there is a frame of reference R* such that E B-occurs in R*, then from (**) it follows that for any future time *t* in R the state of the world s_t is uniquely fixed, and thus (~21), as shown in section 3.1. Now, consider such a future event E in R. Being a temporal event in a temporal frame of reference R, E can only be defined in dependence of a time variable *t*, i.e. $E = E_t$; more exactly, as a temporal event, $E = E_t$ is the value of a time-function at *t*, i.e. $E_t =_{df} E(t)$. On the other hand, E_t is supposed to correspond to an event ε which A-occurs in the eternal frame of reference (defined in 11) R_{et}. Accordingly, ε can only be defined in dependence of this additional eternal dimension (henceforth denoted by e), that means, an eternal event is the value of a function at e, i.e. $\varepsilon = \varepsilon_e =_{df} \varepsilon(e)$.[10] However, this leads us to two different concepts of existence, existence in time and existence in eternity. As pointed out above in section 2, Leftow does not worry about these different concepts of existence, because he believes that it is a single event existing in two different modes, in time and in eternity. I will argue that this is, in fact, *not* the case.

To begin with, let us work out the concept of these two different concepts of existence more exactly. According to Leftow's definition, here quoted in (11), an event ε exists in an eternal frame of reference R_{et} iff ε A-occurs in R_{et}, i.e.

(23) ε *et*-exists iff $\exists R_{et} (\varepsilon_e \wedge e = now_{Ret})$. (*et*-existence)

From (12) it follows that an event E exists in a temporal frame of reference R iff E B-occurs in R, i.e.

(24) E *temp*-exists iff $\exists R (E_t \wedge t = now_R)$. (*temp*-existence)

Prima facie, it is not evident that an eternal event and a temporal event do represent the same event, so that we are justified in speaking of two different modes of existence with regard to a single event. More than that, I will now argue that it is impossible for God to know if an eternal event represents a temporal event.

Let us first identify the necessary conditions for an eternal event ε to represent a temporal event E. To this end, let **E** be the set of all eternal events, i.e. $\mathbf{E} = \{\varepsilon : \varepsilon \textit{ et}\text{-exists}\}$, and **T** the set of all temporal events, i.e. $\mathbf{T} = \{E: E \textit{ temp}\text{-exists}\}$. Clearly, an eternal event need not have a temporal

[10] Henceforth, Greek letters denote events (entities, or properties) in eternity, while Latin letters denote events (entities, or properties) in time.

counterpart; if an eternal event does not have a temporal counterpart, it is a purely eternal event. That is to say,

(25) there is a subset **E'** $\subset$ **E** of eternal events the elements of which represent a temporal event, i.e. E' = {ε : ε $\in$ **E** and ε has a temporal counterpart}.

On the other hand, a necessary (yet not sufficient) condition for an eternal event to represent a temporal event is that if an eternal event has a temporal counterpart, then it has exactly one. For if a single eternal event corresponds to different temporal events, God would falsely believe that two different temporal events are the same.[11] This means,

(26) each ε $\in$ **E'** represents exactly one temporal event E $\in$ **T**, and therefore there is an injective map from **E'** to **T**.

Arguably,

(27) each temporal event E $\in$ **T** is represented by an eternal event ε $\in$ **E**.

For a temporal event without an atemporal counterpart would be a temporal event that God does not know. Given an omniscient God, such a temporal event can, of course, not exist. Moreover,

(28) each temporal event E $\in$ **T** is represented by exactly one eternal event ε $\in$ **E'**, and therefore there is a surjective map from **E'** to **T**.

For if a temporal event had more than one atemporal counterpart, God would falsely believe that there are different temporal events. From (26) and (28) it follows that

(29) there is a bijective map (or one-to-one correspondence) *b*: **E'** $\rightarrow$ **T**, ε $\rightarrow$ b(ε).

However, (24) implies that

(30) by definition, for each b(ε) we can find a temporal reference frame R* such that b(ε) = E_{nowR^*}.

Now, let E' be a future event in a temporal reference frame R. From (29) we know that there is exactly one eternal event ε' such that E' = b(ε').

[11] Note that this condition is a very weak one: it does not imply numerical identity as identity condition, but must hold for any definition of identity.

Yet, (30) states that we can find another temporal reference frame R* such that E' B-occurs in R*, i.e. E' = b(ε') = E_{nowR^*} . Obviously, this is a contradiction to (22). Therefore, there cannot be a correspondence between temporal events and atemporal events (as defined in 29)[12] so that it is impossible for God to know if an eternal event represents a temporal event. Simply put, Leftow's argument fails, insofar as events described by (22) are not cognitively accessible for God. This sits ill with God's cognitive perfection.

IV. CONCLUDING REMARKS

In this paper, I argued that libertarian free will and divine timelessness are incompatible when modelling eternity (understood as God's date of existence) as an additional, atemporal reference frame. My main argument boils down to the claim that God cannot have cognitive access to (ontologically) indeterminate temporal events if he at the same time wants to preserve the possibility of alternate choice concerning these events.

In drawing my conclusions, it seems essential to point out which questions my argument still leaves open: Clearly, it cannot be inferred from my argument that divine timelessness *simpliciter* is a badly defined concept. Nor implies my argument that asserting God's atemporality automatically rules out libertarian free will. Contrarily, I simply have shown that we cannot have it both ways when modelling eternity as an additional, atemporal reference frame. Therefore if libertarianism is true and God is not in time, we are in need of a new model reconciling both facts.

Acknowledgements. I owe the idea of this paper to the inspiring lectures of Brian Leftow in the Master Class 'Divine Foreknowledge and Human Freedom' (February 2012), organized by the Analytic Theology Project. I'd like to thank Brian for his patience in answering my countless questions, and his

[12] A similar argument has been suggested by Garrett DeWeese; cf. DeWeese (2004: 179–84). However, DeWeese's argument seems to miss the point; clearly, it fails when determinism is true. Recall that for my argument to work, (22) is a necessary condition which is given only if (~D) is true. Moreover, even if indeterminism is true, that possible futureR events only exist in eternity and not yet exist in the temporal frame of reference R poses no problem for Leftow's model, since – as Leftow argued by way of introducing so-called P-series – actuality in one frame of reference need not entail actuality in any other frame of reference. Contrarily, the very problem for Leftow's model consists in the fact that – as I have shown – it is impossible for God to know which possible event will be actualized in time.

encouragement to follow my ideas – even if this means disagreement. I am grateful to Christina Schneider, Johannes Groessl, Ruben Schneider, and Phil Stewart for both useful comments on earlier drafts and helpful conversations. This publication was made possible through generous support of the Fritz Thyssen Foundation. This paper was originally presented in Munich, at a conference for the Analytic Theology Project, generously funded by the John Templeton Foundation.

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MOLINISM AND THEOLOGICAL COMPATIBILISM

CHRISTOPH JÄGER

University of Innsbruck

Abstract. In a series of recent papers John Martin Fischer argues that the so-called Molinist solution to the problem of reconciling divine omniscience with human freedom does not offer such a solution at all. Instead, he maintains, Molina simply presupposes theological compatibilism. However, Fischer construes the problem in terms of sempiternalist omniscience, whereas classical Molinism adopts atemporalism. I argue that, moreover, an atemporalist reformulation of Fischer's argument designed to show that Molinism is not even consistent is unsuccessful as well, since it employs a transfer principle about causal inaccessibility that Molina rightfully rejects.

I. INTRODUCTION

In a series of recent papers John Martin Fischer argues that the so-called Molinist solution to the problem of reconciling divine omniscience with human freedom does not even attempt to offer a response to this problem (Fischer 2008, 2009, 2011). 'I intend to show', he writes, 'that [the kernel set of ideas in Molina's theory of God's omniscience] ... (contrary to what many philosophers apparently think) *cannot* be invoked to provide a solution to the problem posed by the relationship between God's omniscience and human freedom' (2011: 208). Instead of presenting such a solution, Fischer maintains, Molinism simply presupposes theological compatibilism since it assumes 'from the outset ... that there exists a possible world in which God knows in advance that some agent does X and is nevertheless free to do otherwise' (2009: 138-39). Molinism, he argues, is thus 'question-begging (or at least not dialectically helpful at all)' for the dispute over theological compatibilism (2011: 213; 2008: 28).

Fischer raises an important question here, and his reflections are (as so often) helpful and stimulating. Indeed, at first blush it might appear

not only that his argument is on target, but that he is *obviously* right. After all, is it not a consequence of 'middle knowledge' (*scientia media*), the key concept of Molinism, that if God holds such knowledge He thereby knows what some possible creature would *freely* do in some possible situation? Middle knowledge, Molina says in an oft-quoted passage, is a kind of divine knowledge

> by which, in virtue of the most profound and inscrutable comprehension of each faculty of free choice, He [God] saw 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, in infinitely many orders of things ...[1]

As Molina defines it, middle knowledge constitutes divine knowledge of *free* human actions, and hence it may indeed look as if Molina, in assuming that the notion of middle knowledge is coherent at all, just posits the truth of theological compatibilism.

However, on closer inspection the picture turns out to be somewhat different. First, Fischer discusses and criticizes what we may call *sempiternalist Molinism* – the view that an everlasting God has both middle knowledge and genuine foreknowledge, the latter concerning events which also from God's point of view are still coming to be. There may be such forms of Molinism, yet they differ from paradigmatic or *classical* versions of Molinism. Arguably, the most classical version of Molinism is the account put forth by Molina himself. To be sure, Molina often uses temporal lingo when presenting his theory. But his official position – like that of most late medieval Aristotelians heavily influenced by Aquinas – is theological atemporalism. Accordingly, what Molina argues for is what I shall call *atemporalist Molinism*. Fischer argues that Molinism does not offer a response to what he calls 'the Basic Argument' for the incompatibility of God's (sempiternal) omniscience with human freedom (2011: 212). However, classical Molinism has a straightforward response to this argument as laid out by Fischer: divine knowledge does not occur at times at all; from an atemporalist viewpoint Fischer's Basic Argument is ill-phrased.

[1] '... mediam scientiam qua ex altissima et inscrutabili comprehensione cuiusque liberi arbitrii in sua essentia intuitus est, quid pro sua innata libertate, si in hoc vel illo vel etiam infinitis rerum ordinibus collocaretur, acturum esset ...' (*Concordia*, disp. 52, 9; p. 340/p. 168, emphasis in the English translation C.J.) Here and in what follows the English translations follow Freddoso's, with page references, in this order, to Rabeneck's latin edition of the *Concordia* and Freddoso's translation.

Of course, whether this response succeeds depends, among other things, on whether atemporalism is true (or at least rationally acceptable). This question is controversial. This paper does not aim to enter into this general controversy between temporalists and atemporalists. Instead I shall reconstruct Fischer's Basic Argument, clarify Molina's position, and then show in some detail why the Basic Argument for theological incompatibilism does not apply to Molina's atemporalist conception of divine middle knowledge. A natural question at this point is whether Fischer's charge can be restated in atemporalist terms. In a second step I argue that what most threatens Molina's atemporalist Molinism in this context is an argument to the effect that his position is not even consistent. As it turns out, however, Molina has a response to this charge as well.

II. FISCHER'S BASIC ARGUMENT FOR THEOLOGICAL INCOMPATIBILISM, AND ATEMPORALIST MOLINISM

What exactly is the 'Basic Argument' for theological incompatibilism which, according to Fischer, Molina does 'not even attempt' to respond to? (2008: 25) Fischer notes, first, that 'whatever else omniscience involves, it entails that an omniscient agent believes P just in case P is true' (2011: 211). Since Fischer's argument will adopt theological sempiternalism and make the (standard) assumption that God is *essentially* omniscient, we may capture the relevant principle by saying that:

(Omniscience) If A is essentially sempiternally omniscient, then, necessarily, for any given time T and proposition P, A believes at T that P if and only if P.

Next, Fischer introduces a principle designed to capture the fixity of the past, or the view that what one is able, or has in one's power, to do must be an extension of the actual past. Hence:

(FP**) 'An agent A has it in his power (in the sense relevant to moral responsibility) at (or just prior to) T in possible world W to do F at T only if there is a possible world W* with the same past as that of W up to T in which A does F at T.' (2011: 211; 2009: 129, footnote 8)[2]

Inspired by Nelson Pike's classic argument for theological incompatibilism (cf. Pike 1965), Fischer then formulates his argument as follows:

[2] Fischer uses S, X, and t where I use A, F, and T, respectively.

> 'Suppose that God ... exists, and that S does X at t_2, where X is some ordinary act such as raising one's hand. It follows that God believed at t_1 that S would do X at t_2. Given God's essential omniscience, God's belief at t_1 entails that S does X at t_2. Thus, in all possible worlds in which God believes at t_1 that S will do X at t_2, S will do X at t_2; so in any world in which S does not do X at t_2, God doesn't believe at t_1 that S does X at t_2. It seems to follow from (FP**) that S does not have it in his power at or just prior to t_2 to refrain from X-ing at t_2.' (2011: 211f.; 2009: 129)

It may be helpful to examine a somewhat more schematic presentation of this 'Basic Argument' for theological incompatibilism. Suppose that S does X at t_2 and that God exists and is essentially and sempiternally omniscient (assumption). It follows, first, that:

(*Argument I*)

(1) God believes at t_1 that S will do X at t_2.

Moreover, by (Omniscience) we get:

(2) Necessarily, if God believes at t_1 that S will do X at t_2, then S does X at t_2.

If (1) is true, and we count refraining from doing X as doing something (which I do not wish to dispute), we can deduce with (FP**) that:

(3) S has it in his power (or is in this sense free) at or just prior to t_2 to refrain from doing X at t_2, only if it is possible that: God believes at t_1 that S will do X at t_2, but S refrains from doing X at t_2.

However, (2) is of course just another way of saying that:

(4) It is *not* possible that: God believes at t_1 that S will do X at t_2, but S refrains from doing X at t_2.

From (3) and (4) it follows (by contraposition and *modus ponens*) that:

(5) S does not have it in his power at or just prior to t_2 to refrain from doing X at t_2.

However, Molina holds a robust libertarian theory of free will and moral responsibility which endorses the principle of alternate possibilities, according to which an action is free ('in the sense relevant to moral responsibility') only if the agent could have done otherwise. On this view, therefore (5) also tells us that S is not free in doing what he does at t_2.

What are we to say of this argument and its significance for classical Molinism? First, Molina would dismiss this argument straightforwardly because he adopts atemporalism. Second, one may question the relevance of the above argument for what Fischer – rightly, I believe – identifies

as the key question in this context. This question is whether we enjoy power to do otherwise *in the sense relevant to moral responsibility* (see FP** above). But whatever the above argument (1)-(5) achieves, I do not think that in its present form it shows that foreknowledge is incompatible with the power to do otherwise in this sense. In order to achieve *that* conclusion, it would have to show, first, that S does not have it in his power at or just prior to t_2 to refrain from doing X at t_2 and, second, that S *does not have a choice* (at or just prior to t_2), *nor ever had a choice, about lacking that power* at or just prior to t_2. In order for this condition to be fulfilled, however, the argument would have to maintain that S does not have, nor ever had, a choice about God's believing at t_1 that S would do X at t_2. I begin with the first point, which concerns Molina's atemporalism.

(i) Molina makes it very clear in the *Concordia* that, concerning the concept of eternity, he wishes to follow Aquinas, Augustine, Boethius, Anselm, and others in construing the notion in an atemporalist sense. In disp. 48, for example, he discusses 'whether all the things that exist, have existed, and will exist in time are present to God from eternity' (which is part of the title of disp. 48). His answer is affirmative, and he explains that:

> eternity is in itself a certain indivisible duration, a simultaneous whole having as a unit an infinite durational latitude by virtue of which it coexists and corresponds as a whole with the whole of time and as a whole with each interval and point of time. ... [T]he whole of time and whatever exists or successively comes to exist in it coexists with and exists in the indivisible now of eternity, before which there is nothing and after which there is nothing, and in which there is found no before or after and no past or future, but only an indivisible, simultaneously whole duration.[3]

Molina proceeds by quoting 'the holy Fathers' who, he explains, 'sometimes deny that in God there is foreknowledge, properly speaking'.

> For in the indivisible now of eternity, *which is the duration proper to the divine knowledge*, all things are present and coexist; and in this eternal now there is no before or after ... So it follows that in God there is no foreknowledge with regard to the existence of things in eternity.[4]

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[3] 'Aeternitas ... sit secundum se duratio quaedam indivisibilis tota simul unite habens latitudinem durativam infinitam qua coexistit et correspondet tota toti tempori et tota singulis partibus ac punctis illius ... [T]otum tempus et quicquid in eo est aut fit successive coexistat et sit in indivisibili nunc aeternitatis, ante quod nihil est et post quod nihil aliquid non est, in quo neque cernitur prius aut posterius neque praeteritum aut futurum, sed duratio indivisibilis tota simul.' (*Concordia*, disp. 48, 2, p. 300/p. 99)

And Molina goes on approvingly to quote Augustine, Anselm, and Boethius on this view.

The idea that things with temporal existence may be said in some sense also to exist in timeless eternity may raise an eyebrow. Here I shall not comment further on this issue, but simply note that Molina's official position is atemporalism, and that he agrees with the Augustine-Boethius-Aquinas tradition that 'properly speaking' there is no foreknowledge in God. So at least Molina's Molinism has a response to the Basic Argument, namely that it (mis)construes divine knowledge of human action as a kind of knowledge that occurs in time.

To be sure, when he talks about divine knowledge Molina frequently slips into temporal lingo. For example, in the passage just quoted, where he denies that there is foreknowledge in God regarding 'the existence of things in eternity', he goes on to say: '... though in relation to time there is, altogether properly speaking, foreknowledge in God, since He knows things an infinitely long time before they exist.'[5] What Molina means, however, is that such temporal qualifications of divine actions and cognitive states are to be taken *nostro intelligendi modo*, i.e., in our way of understanding (and speaking). Only from the perspective of temporal beings may one say that there were times when God knew – knew in eternity – what people were going to do. Only in this sense were there times, for those temporal beings, when God in His atemporal eternity held true beliefs about what would happen.

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[4] '[I]n indivisibili nunc aeternitatis quod est propria duratio scientiae divinae omnia sint praesentia et coexistant neque in eo sit prius et posterius ... [F]it ut comparatione existentiae rerum in aeternitate non sit praescientia in Deo.' (*Concordia*, disp 48, 11, pp. 302-303/p. 103; emphasis in the English translation added.) The *Concordia* contains so many passages in which Molina argues along such lines that it is impossible to quote them all here. When Molina speaks of 'eternity', he almost always refers to timeless eternity. To mention just one other representative passage, in disp. 51, 17, Molina says that 'in eternity, insofar as it *corresponds* to this present time or any past moment of time, either God sees with certainty, because of the depth and perfection of His knowledge, which part Peter's free choice is going to turn itself toward tomorrow, or He does not see this with certainty. The second answer cannot be given ....' ('Deus in aeternitate, ut respondet huic praesenti aut cuicumque praeterito temporis momento, ex altitudine et perfectione suae scientiae penetrat certo, in quam partem liebrum arbitium Petri se inflectet castina die vel non. Non est dandum hoc secundum.' (p. 333/ p. 156; emphasis in the English translation added C.J.)

[5] '... tametsi collatione facta ad tempus sit in Deo propriissime praescientia qui res scit tempore infinito, anteaquam sint.' (Molina, *Concordia*, disp. 48, 11, pp. 302-303/p. 103)

Note that both contemporary friends and foes of Molinism usually emphasize that according to Molina middle knowledge occurs 'prevolitionally' in God and thus enjoys some kind of priority over the knowledge which God has once He engages in His creative voluntary act of actualizing the actual world. Yet what virtually all commentators (rightly) emphasize as well is that this priority ought not be (mis-) construed in a temporal sense, but is to be conceived as a 'logical' or 'explanatory' kind of priority. According to Molina, 'before' creation God has (a) 'natural knowledge' (*scientia naturalis*), i.e., knowledge of every necessary state of affairs, and (b) 'middle knowledge' (*scientia media*), by which He knows what every possible free creature would freely do when placed in certain circumstances. When He actualizes the actual world God also has, according to Molina, (c) 'free knowledge' (*scientia libera*), i.e., postvolitional knowledge of all the actual contingent states of affairs which from then on obtain in the actual world.[6] However, commentators typically stress, and with good reason, that the corresponding stages of creation which Molinists distinguish should not be construed as referring to some temporal order, but as referring to a conceptual or explanatory kind of priority. We would not need this caveat if according to Molinism God's knowledge occurred at certain points in time.[7] I conclude that, if this is how Molina sees the matter, he could, and should, immediately reject the basic assumption of the Fischer-Pike argument according to which there is sempiternal divine knowledge. Accordingly, he could immediately dismiss its central premise (1). God doesn't know anything at any time, but this is not because He is not omniscient. It is because He doesn't have knowledge at times.

In fact Fischer explicitly considers atemporalism as one of 'various ways to respond to the Basic Argument' (2011: 212). However, he apparently does not regard it as a route Molina could take: 'The kernel set of ideas in Molina's theory of God's omniscience ... *cannot* be invoked

[6] Cf. Molina, *Concordia*, disp. 52, 9, pp. 339-40/p. 168.

[7] Freddoso, for example, emphasizes more than one time that the characterization of the three kinds of divine knowledge as prevolitional and postvolitional ought not to be misconstrued in a temporal sense. (See for example Freddoso 1988: 3, footnote 3: 'By dubbing such knowledge prevolitional I mean to point to a conceptual or logical, rather than temporal, ordering within the divine knowledge. Here I follow Molina.') He also emphasizes Molina's 'strong adherence to the doctrine that God is eternal [in an atemporalist sense]', and notes that, unfortunately, this 'does not deter him [Molina] from using tensed language when speaking of God's knowledge of and causal influence on temporal creatures.' (Freddoso 1988: 33-34)

to provide a solution to the problem posed by the relationship between God's omniscience and human freedom' (2011: 208). However, if Fischer's first claim (about atemporalism as a possible response) is true then this latter claim is false, given that atemporalism *is* among the central tenets of Molina's account, and that it is consistent with it.

It often seems as if Fischer identifies Molinism with Molina's claim that there is divine middle knowledge. This identification is inaccurate, it may be argued, since it does not pay much tribute to the richness and complexity of Molina's views. However, Fischer explicitly concedes this and says that his aim is 'not to do history of philosophy or textual exegesis, but, rather, to lay out and philosophically evaluate a certain set of views' (2011: 209). Moreover, whatever we may say about various other aspects of Molina's overall philosophy of providence and freedom, why should we not sever his theological atemporalism from his theory of middle knowledge? Wouldn't this move allow Fischer to maintain that Molinism, reduced to the theory of middle knowledge, indeed fails to provide a response to the Basic Argument?

The problem with this reply is that Molina does seem to regard his notion of middle knowledge as being essentially embedded in his overall atemporalist theology. By middle knowledge, he says, God knows *in His own essence* what each free creature would freely do in any given circumstance (cf. our first quote from Molina above in section 1). But if God exists in timeless eternity, this is part of His essence. Whatever His mode of existence, it does not pertain to Him contingently. Hence Molina's atemporalism is not just a *ramus amputandus* of his theory of middle knowledge. As the account has it, God knows essentially in timeless eternity what every possible free creature would freely do in any possible circumstance. So, the dispute is not just about the label 'Molinism'. Even if we identify classical 'Molinism' with Molina's theory of middle knowledge, since this theory concerns atemporalist divine knowledge, it does contain a response to Fischer's sempiternalist Basic Argument.

(ii) I turn now to the second problem with the Fischer-Pike argument for theological incompatibilism. Fischer claims that the Basic Argument pertains to the power to do otherwise 'in the sense relevant to moral responsibility' (see FP**). Hence the desired conclusion of the Basic Argument is that S does not have the power to refrain from doing X at t_2 and is thus *not morally responsible for doing X at t2*. Fischer is certainly right on this point. What worries philosophical theologians

since St. Paul[8] is whether, and on what grounds, humans may be held accountable for their deeds, and how they can be said to sin, if all of their actions are foreseen by God. Unfortunately, however, Fischer's Basic Argument, as it stands, does not yield the conclusion that S is not morally responsible for doing X at t_2. Given Molina's libertarianism and his acceptance of the principle of alternate possibilities, in order to allow that conclusion, the argument would have to show in addition that S has no choice about whether God knows at t_1 that S is going to do X at t_2. Consider the following example from van Inwagen:

> Suppose that when I am drunk it is not within my power to refrain from violently assaulting those who disagree with me about politics. I get drunk and overhear a remark about Cuban troops in Angola and, soon, therefore, Fred's nose is broken. I was, under the circumstances, unable to refrain from breaking Fred's nose. And yet no one doubts that I am to blame for his broken nose. How can that be? Simple: Although I was unable to avoid breaking his nose, that inability is one I could have avoided having (van Inwagen 1989: 236).

In these circumstances, van Inwagen would be to blame for breaking Fred's nose because he would be morally responsible for it (and because, let us assume, his action is morally reprehensible). The latter holds because, even though *given* the antecedent conditions of his action he does not have the power to refrain from acting as he does at the time in question, nothing rules out that he had a choice about whether these antecedent conditions obtained. A similar point applies to Fischer's Basic Argument. If it wants to establish that S, due to lacking the power to do otherwise at t_2, is not morally responsible for doing X at t_2, the conclusion would have to be that S does not have it in his power at or just prior to t_2 to refrain from doing X at t_2 *and does not have, nor ever had, a choice about this lack of power* because S does not have, nor ever had, a choice about the (sufficient) antecedent conditions of his action. The Basic Argument would therefore have to reason from the premise that S does not have, nor ever had, a choice about God's believing at t_1 that S will do X at t_2. Molina, however, rejects such claims. 'It is not', he writes, 'because God foresees these things as future that they are going to be; rather, it is because they are going to be, by virtue of created free choice, that they are foreseen as future by God' (*Concordia*, disp. 51, 4; p. 328/p. 149). According to this view, therefore, there was a time, after all,

[8] See for example his discussion of the fate of Jacob and Esau in *Romans* 9: 11-13.

when S had a choice about God's foreknowing that S would do X at t_2. It was the time when S decided to do X at t_2, for, had S decided at that time to refrain from doing X at t_2, God would have believed that S would refrain from doing X at t_2.

Molina, I argued, endorses atemporalism. Hence we may read him here as claiming that, *even if* a sempiternalist argument for theological incompatibilism along the lines of Fischer's Basic Argument were acceptable and not to be dismissed from the outset, such an argument should be rejected because it gets the order of explanation wrong. Given Molina's atemporalism, however, I shall not pursue this sempiternalist response with respect to Fischer's original argument. Instead, I shall now turn to atemporalist Molinism and ask whether an argument in Fischer's spirit might be reformulated on such classical Molinist grounds.

III. IS ATEMPORALIST MOLINISM COHERENT?

A natural view is that an action is performed freely – in the sense relevant to moral responsibility – only if the agent is, at least in part, *causally* responsible for it or, as I shall say, has a causal impact on it. We may capture this in the following principle:

(CI) A human agent A performs an action freely only if A contributes causally to it.

(CI), I contend, states a moderate and highly plausible necessary condition for an action to be free. It is hard to see how an action whose agent has no causal influence whatever upon it should qualify as having been performed freely. Indeed, many authors would say that in such a case it doesn't even qualify as an action at all.

Not only is (CI) systematically very plausible, it also is a tenet of classical Molinism. Along with Aquinas and many other late medieval authors Molina holds that, while God is the primary (or remote) cause of every contingent state of affairs, free human actions are such that their agents serve as secondary (or proximate) causes of them. Any free creaturely action, on this view, is such that its agent causally contributes to performing it (as a secondary cause), thereby giving God's 'general concurrence' which makes that action possible at all a particular direction. While human agents do not, and cannot, see to it that all necessary conditions for their free actions are fulfilled, freedom nevertheless requires agents to be causally involved in those actions. Regarding Molina's way of phrasing the problem, it will be helpful to

formulate the following corollary of (CI). (CI) entails that, if an agent does *not* contribute causally to something he does, then what he does is not done freely. It follows that, if for metaphysical reasons an agent *cannot* contribute causally to some event, then even less does this event qualify as a free action of his. Now, let us say that, if an agent A cannot contribute causally to some event or state of affairs at a given time t, that event or state of affairs is 'causal-impact necessary' (CI-necessary) for A at t. So we have:

(CI-Nec) An agent A performs an action freely at t only if that action is not CI-necessary for A at t.

A critic may argue that this principle can be deployed to show not only that (atemporalist) Molinism fails to respond to the charge of theological incompatibilism, but that the Molinist position is not even consistent. The argument can be presented as a *reductio*.[9] Let S once more denote a given human agent, and suppose that S, being in circumstances C at t, does X at t. Suppose that God exists and is essentially atemporally omniscient (assumption), i.e., suppose that necessarily, if God eternally believes that p then p, and *vice versa*. (From now on I use 'eternal', 'eternity', and so forth, exclusively in an atemporal sense.) The anti-Molinist's reasoning might then go as follows. According to Molina, he may argue, it holds that:

(*Argument II*)

(1) It is CI-necessary for S (at any time in S's life) that God eternally believe via middle knowledge that S, when placed in circumstance C at t, would freely do X at t.
(2) Necessarily, if God eternally believes via middle knowledge that S, when placed in circumstance C at t, would freely do X at t, then S, when placed in C at t, freely does X at t.
(3) Hence, it is CI-necessary for S (at any time in S's life) that, when placed in C at t, he freely does X at t.

However, (CI-Nec) tells us that an action is performed freely at t only if it is *not* CI-necessary for its agent at t. Hence, with this principle we can derive from (3) the self-contradictory statement that:

(4) S is not free in doing X freely when placed in C at t.

Since (4) is contradictory, the above argument – if it goes through – is a *reductio* of Molina's atemporalist Molinism.

[9] For related versions see Jäger (2011a) and (2011b).

Molinists have at least two responses to this argument. The first concerns premise (1). How might Molina's opponent back up this premise? Theological considerations aside, a natural line of reasoning is that, just as we cannot control the past, nor can we influence the realm of the timeless. But why do we lack control over the past? Because, the reasoning may go, we cannot causally influence it. And the reason usually presented for *this* is that backward causation is impossible.[10] Backward causation is a process type in which a cause occurs later in time than its effect, and we tend to be sceptical about backward causation because we assume that precisely this must not be allowed. Note however that this argument does not rule out that temporal beings can have a causal impact on something in the realm of the timeless. For temporal beings and their actions and decisions certainly do not occur later *in time* than timeless states of affairs. In short, our denial of causal access to the past seems to be grounded in a no-later-in-time requirement for causes; yet a parallel argument does not work for denying that it is possible to have a causal impact on what God eternally believes about human actions.

There are other reasons for claiming that we cannot have a causal impact on what occurs outside time. A standard argument is that in a cause-effect relation both relata must be temporal entities. The problem with this argument, however, is that it would also preclude a timeless God from causally affecting the temporal world. To be sure, this is one of the main philosophical reasons anti-eternalists have traditionally put forth in favour of sempiternalism.[11] Yet the issue is highly controversial, and Molina is an atemporalist. So if we assume, with classical Molinism and many other authors in the Augustine-Boethius-Aquinas tradition, that God is timeless yet can still causally interact with His creation as it unfolds in time, there is no reason, at least no obvious philosophical one, to object to the idea that causation may also proceed from inside to outside of time. I conclude that, from the point of view of classical atemporalist Molinism, good reasons for premise (1) in Argument II are thin on the ground.

[10] The following argument draws on Zagzebski (2011: 73).

[11] Cf. for example Swinburne (1993a), chapter 12; and (1993b). In this latter work Swinburne argues that 'if God causes the beginning or continuing existence of the world, and perhaps interferes in its operation from time to time, his acting must be prior to the effects that his action causes' (p. 216). Concerning Stump and Kretzmann's atemporalism and their notion of 'ET-simultaneity' (Stump and Kretzmann 1993), Swinburne argues that 'no reason has been given for supposing that if God has an existence outside (our) time, he can have any relation to the events of time which would be in any way analogous to "causing" or "observing" them' (p. 218).

Molina's second response to Argument II could be that, whatever we may say about premise (1), the inference from (1) and (2) to (3) is dubious as well. This inference relies on a closure or transfer principle that is structurally analogous to the necessity version of van Inwagen's famous principle Beta.[12] The inference from (1) and (2) to (3) in Argument II relies on the rule that:

(Transfer) If an agent A cannot have, and could never have had, a causal impact on p (or on an event that grounds the truth of p), and necessarily, if p then q, then A cannot have, nor could ever have had, a causal impact on q (or on an event that grounds the truth of q).

The qualification 'or an event that grounds ...' is meant to preserve neutrality towards particular theories of causation. Some will say that, since propositions are abstract objects and thus do not exist in time, one cannot have a causal impact on them. However, even if one accepts an inside-time requirement for the relata of causation, we could still say that agents can have a causal impact on events which are such that, if they occur, certain corresponding propositions are true.

Does Molina accept (Transfer), and is this principle true? I think that both questions are to be answered in the negative. The interpretative question is somewhat complex, and here I shall only give its bare outlines.[13] In disp. 52 of the *Concordia* Molina explicitly discusses and rejects seven arguments in favour of theological incompatibilism. (This is one more reason why one might hesitate to accuse Molina of not even attempting to explain how divine omniscience might be compatible with human freedom.) Some of these arguments bear close similarities to Fischer's Basic Argument. For example, Molina asks us to consider a line of anti-compatibilist reasoning he reconstructs as follows:

> If a conditional is true and its antecedent is absolutely necessary, then its consequent is likewise absolutely necessary; otherwise, in a valid consequence, the antecedent could be true and the consequent false, which is in no way to be admitted. But the conditional 'If God knew that this was going to be, then it will so happen' is true, or else God's knowledge would be false; and the antecedent is absolutely necessary, both because

[12] See van Inwagen (1983: 94). The original principle has the form: Np, N(p ⊃ q) |– Nq, where 'Np' is, in one application, to be read as saying that p, and no one has (or ever had) a choice about whether p.

[13] For a more extensive treatment, however, see Jäger (2011a).

> it is eternal and because it is past-tense and there is no power over the past. Therefore, the consequent will be absolutely necessary as well, and hence no future thing foreknown by God will be contingent.[14]

Some comments are in order. First, as Molina makes clear in his reply to this argument (to be quoted soon), what is really at issue here is not just a 'true' conditional but one that is necessary. For clearly, it is not only true but necessarily true – true for conceptual reasons – that, if God knew that X was going to happen, X would happen. The conditional in question, the 'valid consequence', as Molina says, thus has the form $\Box(p \supset q)$. Second, whereas the kind of necessity pertaining to the conditional as a whole is metaphysical or 'broadly logical necessity', the 'absolute', that is, non-conditional necessity of the antecedent (i.e., of 'God knew that this was going to happen') is of a different kind. After all, the antecedent is said to be necessary 'both because it is eternal and past'. This would not be a good reason to count this proposition as (broadly) logically necessary. The question is exactly which kind of non-logical necessity and which kind of transfer principle concerning mixed modalities is at issue. Let 'N' stand for the kind of non-logical necessity in question. The text of the above quotation is indifferent as to whether the transfer principle in question is of the form: Np, $\Box(p \supset q) \vdash \Box q$, or of the form: Np, $\Box(p \supset q) \vdash Nq$. Given that 'N' will in any case be an operator denoting some weaker kind of necessity than logical necessity, the former principle is quite obviously false. Hence what is under consideration, it seems, is the truth of a principle of the form Np, $\Box(p \supset q) \vdash Nq$.

Molina responds to the argument by rejecting its inference as invalid, thereby rejecting the modal transfer principle it employs. His response is that:

> In such a case, even if (i) the conditional is necessary (because in the composed sense these two things cannot both obtain, namely, that God foreknows something to be future and that the thing does not turn out that way), and even if (ii) the antecedent is necessary in the sense in

[14] 'Si conditionalis aliqua est vera et eius antecedens est absolute necessarium, consequens est etiam absolute necessarium; alioquin in bona consequentia esse posst antecedens verum et consequens falsum, quod nulla ratione est admittendum. Sed haec condicionalis est vera: si Deus scivit hoc esse futurum, id ita eveniet, alioquin scientia Deo esset falsa; et antecedens est absolute necessarium, tum quia aeternum, tum etiam quia praeteritum et ad praeteritum non est potentia. Ergo consequens erit etiam absolute necessarium ac proinde nullum futurum praescitum a Deo erit contingens.' (*Concordia*, disp. 52, 3, pp. 337-8/pp. 167-8)

> question (because it is past-tense and because no shadow of alteration can befall God), nonetheless the consequent can be purely contingent.[15]

So he agrees with his opponent that the conditional is necessary – necessary in the (broadly) logical sense, we may interpret him – and that the antecedent is necessary in some other sense. Yet he disagrees that from this we can deduce that the consequent is necessary – necessary in that other sense – as well. Molina, in other words, denies that the rule Np, $\Box(p \supset q) \vdash Nq$ is valid for the kind of necessity for which 'N' stands. It remains to be answered what kind of necessity applies in the argument's antecedent, the claim that God 'foreknows' that a certain event, for example some human action, is going to happen.

Various interpreters, including Freddoso, argue that what Molina denies here is that so-called 'accidental necessity' is closed under entailment, and that Molina therefore thinks that incompatibilist arguments which rely on the idea that accidental necessity *is* so closed are invalid.[16] As introduced by William of Sherwood, accidental necessity is a time-relative kind of necessity pertaining to propositions or states of affairs that are past and thus 'over and done with'.[17] If a state of affairs is accidentally necessary, no one can affect it anymore. If this interpretation were correct, we might have the potential for a reply to Fischer's sempiternalist version of the Basic Argument. However, given Molina's atemporalism and his characterization of the antecedent of the argument in question as 'eternal', I think that this interpretation is doubtful. Instead, I think that Molina may plausibly be interpreted as denying that *causal-impact necessity* is closed under entailment. Molina, it seems, denies (Transfer). After all, why might one think that the antecedent of the argument in question (that God knew that this was going to be) is in some sense necessary on account of its both being (i) 'eternal' and – *nostro intelligendi modo* – (ii) 'past-tense'? A natural reason

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[15] 'Tunc enim, esto conditionalis sit necessaria, quia in sensu composito cohaerere non possunt ista duo, quod Deus aliquid praesciat futurum et illud non eo modo eveniat, et esto antecedens illo modo sit necessarium, quia praeteritum et quia in Deum nulla possit cadere vicissitudinis obumbratio, nihilominus consequens potest esse mere contingens.' (*Concordia*, disp. 52, 34, p. 353/p. 189)

[16] Freddoso (1988: 55); see also Zagzebski (1991: 131-32), and Zagzebski (2002).

[17] According to William of Sherwood 'that is accidentally necessary which neither now nor in the future can be false, but once might have been false'. ('Necessarium autem per accidens est, quod non potest nec poterit esse falsum, potuit tamen'; *Introductiones Logicam*, 11, p. 34.)

is that both what is past and what is atemporally eternal are causally inaccessible. To summarize: There is a highly plausible reading of Molina according to which he denies, in his response to a certain argument for theological incompatibilism, that what I called causal-impact necessity is closed under entailment. And this, I maintain, also yields a response to Argument II above, which in its inference from (1) and (2) to (3) employs a principle according to which causal-impact necessity *is* closed under entailment.

There may be some room for interpreting Molina's writings on the issue. However, the crucial systematic question at this point is whether (Transfer) really *is* invalid. And whatever Molina's views on this question may have been, I think that it should be answered in the positive. Somewhat ironically, we may support this verdict by considering a type of counterexample that Fischer himself once used to refute the claim that a related notion, namely that of moral responsibility, is closed under entailment.[18] Some 400 years after the second edition of the *Concordia* appeared in print (in 1595), a fellow Jesuit of Molina's, Mark Ravizza S.J., presented counterexamples to the responsibility version of van Inwagen's famous rule Beta which draw on cases of causal overdetermination (Ravizza 1994). A few years later, Stump and Fischer reformulated Ravizza-style counterexamples in such a way that they would also fit the necessity version of rule Beta, as applied to moral responsibility. A very similar kind of counterexample, I maintain, can also be used to show that (Transfer), which concerns, not (lack of) moral responsibility, but what I called 'causal-impact necessity', is invalid. Here is an example of my own, based on Agatha Christie's story 'Murder on the Orient Express'.

The ingenious detective Hercule Poirot finds out that Mr. Ratchet has been stabbed to death by twelve different conspirators (by Princess Natalia Dragomiroff, Hector Willard McQueen, Colonel Arbuthnot, Hildegard Schmidt, and others). Each had a motive and stabbed the victim. We can easily retell the story in such a way that (i) each stabbing was causally sufficient for Ratchet's death, and that (ii) each stabbing caused his death via deterministic causal chains. Moreover, let us stipulate that (iii) none of the protagonists could have had any causal influence on any of their allies' lethal actions. In these circumstances, for each conspirator, the stabbing performed by any of his or her fellow murderers is CI-necessary.

[18] See for example Stump and Fischer (2000). Such examples are also discussed in Fischer and Ravizza (1998).

Second, by stipulation it holds that, necessarily: If one of the stabbings is performed, the victim will die; there is no possible world with the same laws of nature in which the victim is stabbed by any one of the agents but survives. However, Ratchet's death is not CI-necessary for any of the murderers, since each of them was causally involved in that event. *Ex hypothesi* each individual act of stabbing was causally sufficient for the victim's death. This is a counterexample to (Transfer). We have instantiations of the facts that it is CI-necessary for a given agent that *p*; necessarily, if *p* then *q*; yet it is not CI-necessary for that agent that *q*. Given that Fischer endorses structurally similar counterarguments to similar transfer principles, I think that he should also accept this counterexample to (Transfer). In any case, this example seems to me to succeed against (Transfer), and hence it appears that Argument II against atemporalist Molinism, which at first glance seemed a promising fallback position for Fischer, should be rejected as well.

IV. MOLINA ON HUMAN CHOICE ABOUT DIVINE BELIEFS

There is yet another string to the anti-Molinist's bow, one may argue, even if we assume atemporalism. For is not the question more generally whether human agents *have a choice* about divine beliefs about human actions, and whether these human agents can prevent God from forming these beliefs?[19] If they cannot, the corresponding human actions would appear unavoidable too, and thus the problem would recur. Suppose we substitute, in Argument II, 'S never has a choice about the fact that ...' for 'it is CI-necessary for S ... that ...'. Suppose again that S does X at t. The critic may then reason as follows:

(*Argument III*)

(1) S never (i.e., at no time in S's life) has a choice about the fact (or truth of the proposition) that God eternally believes via middle knowledge that S, when placed in circumstance C at t, would freely do X at t.
(2) Necessarily, if God eternally believes via middle knowledge that S, when placed in circumstance C at t, would freely do X at t, then S, when placed in C at t, freely does X at t.
(3) Hence, S never has a choice about the fact (or truth of the proposition) that, when placed in C at t, he freely does X at t.

[19] I am indebted to Patrick Todd for this point.

Following van Inwagen, let us say that, if S has no choice about p, then S cannot see to it that not-p, or – if p stands for a proposition – cannot render p false. Now, on a libertarian conception of free will which accepts the principle of alternate possibilities it holds that:

(Choice) A performs an action freely at t only if there is a time when A has a choice about performing that action at t.

With this principle we can again deduce from (3) the self-contradictory statement that:

(4) S is not free in doing X freely in C at t.

This argument shows, Molina's opponent may maintain, that if we construe the atemporalist version of our anti-Molinist argument in terms van Inwagen's good old notion of lack of choice, the *reductio* goes through.

Argument III, too, employs a modal transfer principle which roughly has the form $N_s p, \Box(p \supset q) \vdash N_s q$; only that this time the N-operator, supplemented by a subject index and prefixed to p, is to be interpreted in terms of there never being a choice for S as to whether p. Whether the no-choice operator is closed under entailment is not uncontroversial either; yet I concede that such a principle is harder to come by than (Transfer).

However, Molina has a response to Argument III as well. As already noted in section II, he frequently stresses that it would be a mistake to believe that we do what we do because God believes that we do it. Instead, he argues, God holds true beliefs about what we do because we (freely) do it. For example, consider the following two representative passages:

> He [God] knows with certainty, before the determination of His will, what such-and-such a faculty of free choice would do in its freedom on the hypothesis and condition that God should create it and situate it in this particular order of things – even though it could, if it so willed, do the opposite, and even though if it was going to do the opposite, as it is able to, then God would have known *this* in His essence through that very same knowledge and comprehension, and *not* what He *in fact* knows is going to be done by that faculty of free choice.[20]

In disp. 52 Molina explicitly says that God knows what he knows about free creaturely actions because of these actions, and not *vice versa*:

[20] '[A]nte illam determinationem voluntatis certo scit, quid tale liberum arbitrium sit facturum pro sua libertate ex hypothesi et condicione, quod illud creet et constituat in eo ordine rerum, cum tamen possit, si vellit, facere oppositum, et si esset facturum, ut potest, Deus illa eadem scientia et comprehensione liberi arbitrii in sua essentia scivisset et non id quo re ipsa scit a libero arbitrio esse agendum.' (*Concordia*, disp. 50, 15, pp. 324-25/ pp. 140-41; emphases in the English translation added by Freddoso.)

> For ... the things that issue forth from our choice or depend on it are not going to happen because they are foreknown by God as going to happen, but, to the contrary, they are foreknown by God as going to happen in this or that way because they are so going to happen by virtue of our freedom of choice – though if they were going to happen in a contrary way, as they are able to, then from eternity they would be foreknown as going to happen in that contrary way instead of in the way they are in fact foreknown as going to happen.[21]

Adopting terminology recently suggested by Brüntrup and Schneider (2011) in a paper that discusses the present problem, we may say that, according to Molina, free creatures enjoy 'counterfactual power' over what God believes about their free actions. In a sense, we do have the power to make a possible world actual in which we do otherwise and in which, correspondingly, God holds different beliefs about what we do.

Molina, I believe, again argues from an atemporalist perspective when he says that human actions are 'from eternity foreknown' by God. Note however that the above passages could be read as containing yet another response to Fischer's sempiternalist Basic Argument. Suppose for the sake of argument that we adopt sempiternalist Molinism. Even then Molina's claims would in no way clash with the fixity of the past. Molina wholeheartedly endorses that the past cannot be changed: 'It manifestly involves a contradiction', he writes, 'for there to be power over the past.'[22] This view is perfectly consistent with there being 'counterfactual power' over sempiternal divine beliefs. Consider the assumptions of the Basic Argument (that S does X at t_2 and that God knows this in advance), and suppose that S is able to refrain from doing X at t_2. What follows is not that, were S to refrain from doing X at t_2, S would – per impossibile – change the *actual* past, including the fact that God knew at t_1 that S would do X at t_2. What follows is only that, were S to refrain from doing X at t_2, the past *would* have been different from the way it actually was, and consequently that God would not have believed at t_1 that S would do X at t_2.

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[21] 'Cum enim res quae a nostro arbitrio emanant aut ab eo pendent non ideo sint futurae, quia a Deo praecognoscuntur futurae, sed e contrario ideo a Deo praecognoscantur hoc vel illo modo futurae, quia ita pro libertate arbitrii sint futurae, quod si contrario modo, ut possunt, essent futurae, contrario etiam modo et non eo quo reipsa sciuntur praecognoscerentur ex aeternitate futurae.' (*Concordia*, disp. 52, 29, p. 349/p.184) Similar statements are frequent in the *Concordia*. For another passage see for example disp. 51, 4.

[22] 'Manifeste implicat contradictionem dari ad prateritum potentiam.' (*Concordia*, disp. 51, 19; p. 334/p. 158)

In the above passages, Molina once more – and perhaps somewhat misleadingly – talks about divine 'foreknowledge'. Yet he also says that this knowledge is knowledge 'from eternity', by which he means atemporal eternity. So here as well, talk about 'foreknowledge' is to be understood *nostro intelligendi modi*. What Molina really argues, I maintain, is that human agents enjoy counterfactual power over timeless divine beliefs concerning human actions. It is in this sense, he believes, that human agents do have a choice about God's eternal beliefs and that therefore premise (1) of Argument III is false. S has a choice about God's (truly) believing, via middle knowledge, that S would do X at t. For were S to act differently, a different counterfactual of freedom would be true, and consequently God would (eternally) have a different belief.

I think that this is a promising line of reasoning for Molina. Yet we should note the following problem.[23] If we concede that human beings can have counterfactual power over divine beliefs, it might appear natural also to concede that we can have counterfactual power over the past or over laws of nature. The question, in other words, is whether the above quoted statements commit Molina to the view that, in a universe which is governed by deterministic *causal* arrangements, human actions can still count as free since, had the agent acted differently, the past or the natural laws would have been different. If so, it is hard to see why Molina argues so fiercely for theological compatibilism yet emphatically endorses causal, or nomological, incompatibilism. If it suffices for a human action to be free (in the sense relevant to moral responsibility) that the agent enjoy counterfactual power over the corresponding divine beliefs, why should it not also suffice for human freedom with respect to deterministic laws and the past that the agent have counterfactual power over such conditions?[24] If the Molinist would countenance such a power, however, he might jeopardize his libertarianism. For in that case an action's being causally determined would not prevent it from qualifying as free, or its agent's being morally responsible for it.

In order to respond to this problem, the Molinist will have to show that, on closer inspection, these two kinds of power are in fact relevantly different. He must convincingly argue that, while it is sufficient for a human agent to act freely that he enjoys counterfactual power over

[23] Here I am indebted again to Brüntrup and Schneider. For more on this problem see their (2011).

[24] For a classic argument to the effect that we enjoy such power over the laws of nature see Lewis (1986).

eternal divine beliefs, a similar power over the past and deterministic laws of nature does not suffice to guarantee freedom (in the sense relevant to moral responsibility). I think that such an argument may be found. After all, atemporal divine beliefs are ontologically different entities from laws of nature and contingent temporal states of affairs. What such an argument would look like, however, is a topic for another paper.[25]

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[25] For helpful comments I am indebted to the participants of the conference 'Minds: Human and Divine', organized by Godehard Brüntrup, August 6-9, 2012, at Fürstenried Palace in Munich, and to the participants of a workshop with John Martin Fischer on November 29 in Innsbruck. Special thanks for discussions of the present material go to John Martin Fischer, Katherine Munn, Ruben Schneider, and Patrick Todd. Work on this essay has been supported by a research grant from the Province of Bozen, South Tyrol.

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COMPLETE CONCEPT MOLINISM

GODEHARD BRÜNTRUP & RUBEN SCHNEIDER

Munich School of Philosophy

Abstract. A theoretically rigorous approach to the key problems of Molinism leads to a clear distinction between semantic and metaphysical problems. Answers to semantic problems do not provide answers to metaphysical problems that arise from the theory of middle knowledge. The so-called 'grounding objection' to Molinism raises a metaphysical problem. The most promising solution to it is a revised form of the traditional 'essence solution'. Inspired by Leibniz's idea of a 'notio completa' (complete concept), we propose a mathematical model of 'possibilistic' (Molinist) complete concepts. They ground middle knowledge within the very being of the agents themselves. Molinist Complete Concepts can thus serve to reject consequence-style arguments against Molinism. They also allow the Molinist to safeguard a robustly libertarian notion of the ability to do otherwise.

I. INTRODUCTION

The second half of the 20th century saw a renewed interest in Molinism. As a response, many problems with Molinism are eagerly discussed in contemporary analytic philosophy, of which the most severe issues are the well-known 'grounding objection' against middle knowledge and the question whether middle knowledge is able to safeguard creaturely freedom. In Brüntrup/Schneider 2011 we proposed a version of the so-called 'essence solution' to the grounding objection, inspired by the late molinist school in the 17th century and by Leibniz's idea of a 'notio completa' (a complete concept) of every possible individual within the Divine mind as the truth-maker of its counterfactuals of freedom. In this contribution, we will try to provide a refined account of 'Molinist Complete Concepts', defending a substantially revised version of the

original idea against various criticisms. Two key questions are to be answered: why complete concepts instead of the conventional essence solution? What is the additional theoretical advantage of introducing complete concepts as truth-makers of counterfactuals of freedom? How could complete concepts serve to clarify the reasons why Molinism is not to be considered a form of theological determinism – and not even a form of compatibilism? We will show (in section 2) that the semantic and metaphysical problems for Molinism have to be clearly distinguished and (in 3 and 4) that the metaphysical problems require a sort of essence solution, but that the conventional essence solution has to be revised. In section 5 we will explain a precise model of 'possibilistic' (Molinist) complete concepts (5.1) and how it can serve to reject consequence-style arguments against Molinism, how it allows one to hold the 'Principle of Alternate Possibilities' (PAP)[1] (5.2), and how the relation between these complete concepts and the actual individual has to be conceived (5.3).

II. THE MAIN PROBLEMS OF MOLINISM

Middle knowledge (*scientia media*) is the eternal Divine knowledge of all prevolitional and contingent truths. Middle knowledge contains as a subset all the counterfactual conditionals of created freedom (from hereon ccfs): $(P, C) \boxdot\!\!\rightarrow (P, A)$ or for short $C \boxdot\!\!\rightarrow A$ for an individual P, circumstances C and a specific decision or action A. Molinism is the thesis that middle knowledge exists (cf. Perszyk/Mares 2011: 96).[2] Molinism is often classified as a libertarian position whereby libertarianism is conceived of as the conjunction of nomological incompatibilism and the thesis that we have free will.

Perszyk und Mares (2011: 97f.) emphasize that four main problems for Molinism have to be clearly distinguished:

[1] This 'alternative possibilities condition for free actions' holds that 'when an agent does something freely she could have done otherwise [under exactly the same circumstances]' (Perszyk/Mares 2011: 103).

[2] Strictly speaking one has to differentiate between *classical Molinism* and *contemporary analytical Molinism*. Classical Molinism as advocated by Molina and his followers argues for an a-temporal concept of God; middle knowledge therefore is an eternal knowledge in the sense of a-temporal knowledge. In the current debate there are also those who advocate a sempiternalist version of Molinism, though (cf. Christoph Jäger, 'Molinism and Theological Compatibilism', this volume). In this paper we will presuppose the a-temporal version of Molinism.

(a) The *semantic problem:* What are the truth conditions for the ccfs, or what is their semantic foundation? Usually this is explicated via the possible-worlds semantics of Lewis and Stalnaker which operates with relative closeness of worlds or class-selection functions (cf. Lewis 1973; Pollock 1976, 1984; Chellas 1980).
(b) The *grounding objection*: What are the truth-makers of the ccfs?
(c) The *priority problem*: The truth values of the ccfs according to possible-worlds semantics are dependent upon which world is actual – which conflicts with the thesis of their explanatory priority and the thesis that true ccfs are guiding principles for God's creative activity (cf. Adams 1977; Kenny 1979: 70: '... what makes the counterfactual true is not yet there...'). The priority problem is closely related to the grounding objection, but still distinct from it (the grounding objection remains independent from the possible-worlds semantics).
(d) The *determinism/compatibilism problem*: Does the prevolitional truth of the ccfs undermine free will in the libertarian sense?

(b), (c) and (d) are metaphysical problems. Perszyk and Mares (2011: 98) emphasize that solutions to the semantic problem do not carry a metaphysical foundation for Molinism with them, and that vice versa the metaphysical problems do not pose a threat to the semantic foundation in themselves. In this paper we address only the metaphysical problems, especially (b) and (d).

III. VERITAS DETERMINATA

The attempt to extract a metaphysical foundation for Molinism from replies to its semantic problems can be exemplarily illustrated by the theory of the 'veritas determinata' (which dates back to Suárez, cf. 'De scientia Dei', 1.8.8):

The so-called 'Might-Problem' leads to the debate concerning whether the Molinist should either take up the Principle of Conditional Excluded Middle (CEM) or the Lewis-Pollock definition (LP) of might-counterfactuals. CEM states that $(C \mathrel{❑\!\!\rightarrow} A) \vee (C \mathrel{❑\!\!\rightarrow} \neg A)$ for all C and A, whereas the Lewis-Pollock definition interdefines might- and would-counterfactuals as follows: $(p \mathrel{◊\!\!\rightarrow} q) =_{df} \neg(p \mathrel{❑\!\!\rightarrow} \neg q)$. Since middle knowledge contains ccfs, and since proponents of middle knowledge are committed to PAP, it seems to follow that:

(1) C $\Diamond\!\!\rightarrow$ A
(2) C $\Diamond\!\!\rightarrow \neg$A

Additionally, for middle knowledge CEM must hold:

(3) Either C $\Box\!\!\rightarrow$ A
(4) or C $\Box\!\!\rightarrow \neg$A

But with LP it now follows that:

(5) [(1) $\wedge$ LP] $\supset \neg$(4)
(6) [(2) $\wedge$ LP] $\supset \neg$(3)

(5) and (6) are an unacceptable result for the Molinist since they undermine the existence of middle knowledge (cf. Hasker 1994: 145). Possible ways out of this situation seem to consist in either denying that (1) and (2) really follow from a commitment to PAP (cf. Perszyk/Mares 2011: 104, fn. 11) or to reject LP and explicate might-counterfactuals in another way. Perszyk and Mares show that within Lewis-Stalnaker semantics, a rejection of LP is not necessary to hold (1) and (2), since the evaluation of the truth values of the ccfs via similarity relations is context-dependent, and Divine and creaturely contexts are to be distinguished (cf. Perszyk/Mares 2011: 105). The Molinist therefore seems able to simultaneously hold CEM and LP. But on the basis of LP there is a valid objection against CEM posed by Lewis (1973: 79-83):

(a) (C $\Box\!\!\rightarrow$ A) $\vee$ (C $\Box\!\!\rightarrow \neg$A)	CEM
(b) $\neg$(C $\Box\!\!\rightarrow \neg$A) $\supset$ (C $\Box\!\!\rightarrow$ A)	by (a), and by definition of $\supset$
(c) (C $\Diamond\!\!\rightarrow$ A) $\supset$ (C $\Box\!\!\rightarrow$ A)	by (b), LP
(d) (C $\Box\!\!\rightarrow$ A) $\supset$ (C $\Diamond\!\!\rightarrow$ A)	obvious (entailed by LP)
(e) (C $\Diamond\!\!\rightarrow$ A) $\equiv$ (C $\Box\!\!\rightarrow$ A)	by (c), (d)

If CEM and LP hold simultaneously, the distinction between would- and might-counterfactuals collapses (cf. Bennett 2006: 189). This consequence is unacceptable. Therefore either CEM or LP has to be rejected. There are good reasons to reject LP, more precisely speaking to accept $\neg$[(p $\Diamond\!\!\rightarrow$ q) $\supset \neg$(p $\Box\!\!\rightarrow \neg$q)] and – differing from Lewis – not to reject CEM (cf. Stalnaker 1980; Gaskin 1993; Williams 2010; Jäger, forthcoming).

But if CEM holds for ccfs then both disjuncts (C $\Box\!\!\rightarrow$ A) and (C $\Box\!\!\rightarrow \neg$A) cannot be simultaneously false, one of them is true. Since an omniscient God by definition knows every truth, he also must know every true ccf. This is the *veritas-determinata solution* to the grounding objection as advocated by – among others – Francisco Suárez (cf. Craig 1988: 212).

IV. THE ESSENCE SOLUTION

But this veritas-determinata solution faces serious criticism: Perszyk and Mares rightly point out – as mentioned before – that solutions to the semantic problem do not provide solutions to the metaphysical problems of Molinism. Leibniz already objected against Suárez that even if the ccfs are either true or false, the fundamental question remains wherefrom the ccfs acquire the definiteness of their truth values (cf. Ramelow 1997: 229).

This therefore poses the question of the prerequisites of their being true. But how can prevolitional counterfactuals be true? If counterfactuals have truth values, it is impossible for these truth values to be verified *extensionally*, since they do not refer to anything in existence and therefore do not have any extension. The only possibility remaining is for them to be verified *intensionally*. That is to say, given the counterfactual 'If *P* faces circumstance *C*, she will freely choose action *A*', an insight into its truth value can only be acquired via an insight into the concept or the essence of *P*. This is the well-known 'essence solution' to the grounding objection: God contemplates prior to the act of creation from all eternity the individual essences of all possible individuals in all possible worlds which contain all possible and factual decisions of the individuals in question (cf. Kvanvig 1986: 122-126).

But the essence solution carries a host of further problems in its wake:

(a) The *individuation problem*: What individuates the essences prior to the act of creation? (Cf. Zagzebski 1991: 126.) In the Thomistic tradition for example, the essences (forms) are only individuated by their merging with the *materia quantitate signata*. (Cf. ScG, II, c. 93; cf. Schneider 2007: 228.) For Leibniz though, each such essence is an already individuated bundle of qualities without trans-world-identity. But this leads to

(b) the problem of *superessentialism*: If the entities in question are individual essences, is it not inevitable that all the qualities of these possible individuals belong to them necessarily? (Cf. Gale 1991: 125-131.)

(c) This poses the *problem of determinism*: If all its attributes belong to an individual necessarily and there is no trans-world identity, does that not mean that all its factual decisions are already set in such a way as to be determined by its essence? (Cf. Langston 1986: 73 and 91; Hasker 1989: 32, fn. 26.) Does that not make the individual 'a puppet on a string'?

Subsequently, a consequence-style argument against the essence solution can be constructed that runs parallel to the one against standard Molinism (whereby 'N' denotes the No-Choice Operator and '*E*' the individual essence):

(CA_E)

(1) $N(E \wedge C)$	Premise
(2) $\Box[(E \wedge C) \rightarrow A]$	Consequence of Molinism
(3) NA	(1), (2), Transfer of Necessity

This argument can be responded to according to classic strategies: (i) by rejecting the Transfer of Necessity Principle (the 'β-rule') or (ii) by rejection of premise (1), i.e. by ascribing a 'counterfactual power' over my essence and God's knowledge of it. But strategy (i) brings up the question whether this does not entail the fall of the classic consequence-argument against nomological (causal) compatibilism – which the Molinist as a libertarian does not necessarily have to endorse, but rejecting it would certainly be disadvantageous for him.[3] With regard to strategy (ii) one can state that Molina himself explicitly conceived of a counterfactual power over the middle knowledge.[4] But this raises the question how this counterfactual power is to be understood: is it only a 'weak ability' in the Lewisian sense (cf. Lewis 1981) or a direct power over God's middle knowledge? And what is the difference between counterfactual power over God's knowledge and counterfactual power over the past and the laws of nature in the case of nomological compatibilism?

But this debate cannot be pursued here, we will follow another path: In our opinion, on the one hand, one needs intensional verifiability of the ccfs and thus a form of essence solution, but on the other hand, the conventional essence solution has to be revised. In the following section a model shall be developed, which is guided by Leibniz and the late-molinistic debate. It provides specific answers to the problems listed above.

[3] Cf. Jäger 2011: 258f. Jäger argues that within the nomological consequence-argument and within the anti-molinistic consequence argument there are at work two different transfer-principles, so that the Molinist can reject the one and stick to the other.

[4] Cf. Concordia 4.52.21: Middle knowledge 'would be different in God, as is possible, created free choice were by its innate freedom going to turn itself to the opposite part' ('aliter se haberet in Deo, si liberum arbitrium creatum pro sua innata libertate, ut potest, in oppositam partem foret inflectendum', trl. by A. J. Freddoso). Cf. also Concordia 4.52.10, 30, 32, 34.

V. MOLINIST COMPLETE CONCEPTS

5.1 Complete Concepts as Functions

As early as in the scholastic debate in the time between Molina (1535-1600) and Leibniz (1646-1716) the idea originated that middle knowledge was to be founded upon a complete representation of all possible individuals within the Divine mind. A relevant passage for this idea can be found in the writings of the Molinist Hieronymus Fasolus, S.J. (1568-1639), who refined Molina's concept of 'divine supercomprehension', i. e. of the infinite power of representation of the Divine essence toward a complete comprehension of individual substances (cf. Ramelow 1997: 228):

> In the spirit of Molina [...] the free cause cannot be known in a perfect manner if there is not also knowledge of everything contained within this cause, as well as everything that can possibly be caused by it, what has been caused by it, will be caused by it and *would be caused* by it; for the effects too, and indeed all these effects, stem from the cause; so he who perfectly knows the cause necessarily also knows those effects that depend on it in any respect whatsoever [...]. But it is evident that this perfect knowledge must be infinite regarding the future effects (In primum partem Summae D. Thomae Commentariorum, T.2, Lyon 1629: 269a; transl. by authors. Cf. Knebel 1991: 3).[5]

Even though Leibniz himself rejected the concept of a middle knowledge, it can nevertheless be shown that his idea of a 'notio completa' (complete concept) of an individual arose within the context of the Molinistic-Thomistic debate, and has ultimately a strong affinity with the Molinistic position (cf. Hübener 1988: 114; Ramelow 1997: 401-419). His intuition regarding the Divine knowledge of future contingent actions is in line with the remarks of Fasolus:

> God preserves our being and continually generates it, namely in such a way that we encounter thoughts spontaneously or freely in that order which is carried by the *concept of our individual substance* and in which

[5] 'Mente Molinae [...] causa libera [...] non potest perfectissimo modo obiective cognosci, nisi simul cognoscantur et omnia, quae sunt in causa, et praeterea omnia quae ex causa vel esse possunt, vel erunt, vel sunt, vel fuerunt, *vel essent*; nam effectus etiam, atque adeo omnes isti effectus, sunt aliquid causae; ergo qui cognoscit perfectissimo modo causam, eius etiam effectus, quavis ratione ab ea pendentes, cognoscat necesse est [...]. Quod autem haec perfectissima cognitio respectu effectuum futurorum esse debeat infinita, patet.'

> it could be foreseen from all eternity (Discours de métaphysique, § 30; transl. by authors; emphasis added).

In his letters to de Volder, Leibniz elaborates further that the complete concept of an individual has to be thought of as a function (Leibniz uses the term 'series' [seria]).[6] This train of thought can serve as a systematic and historical background for the following model (cf. Brüntrup/Schneider 2011: 234f.):

Definition. Let I be a set of indices, let U be a set of possible conditions $C_k \in U, k \in I$, let A be a set of possible actions or decisions of an individual P, and M a set of subsets of A: $\{A_i : i \in I\} \subseteq A$, $\{A_i : i \in I\} \in M$. In this case the following reconstruction holds:

(1) By virtue of his *Scientia naturalis*, God contemplates which sets of actions are coherent with which conditions, formulated as a *function* F_P from U to M:

$$F_P : U \rightarrow M,$$
$$F_P(C_k) = \{A_i : i \in I\} =: M_{Ck} \in M$$
(Conditions of coherence)

The individual to be created should be free, therefore several choices among actions coherent with respect to conditions U are available for it. Formally, it can avail itself of several *choice-functions*

$$ch: M \rightarrow A.$$

These choice-functions have sets as arguments and one element of the respective arguments as value:

$$ch(\{A_i : i \in I\}) = A_C$$
where $A_C \in \{A_i : i \in I\}$

The individual P has a set of choice-functions CH at its disposal ($ch \in CH$): in the strict logical sense there are several free choices consistent with the single circumstances and the individual's complete concept.

(2) By His *scientia media*, God knows which specific choice-function the individual to be created is going to select. God knows not only the *family*

[6] Cf. among others his letter to de Volder dating March 24th / April 3rd 1699 (Leibniz, Hauptschriften, Bd. II: 475), in which Leibniz says of the soul: 'Denn deren Natur besteht doch darin, das *dauernde Gesetz* für eine fortlaufende Reihe von Veränderungen zu bilden, die sie ohne Anstoß durchläuft' ['For does not her nature consist in forming the law for a continuous series of changes without her passing through any impetus'], as well as the letter to de Volder from January 21st 1704 (Leibniz, Hauptschriften, Bd. II: 513–518).

of choice-functions *CH* available to *P*, but also which one the individual *would* select, He knows:

$$ch^{\star} \in CH,$$
$$ch^{\star}(\{A_i : i \in I\}) = A_C{}^{\star}$$
$$\text{where } A_C{}^{\star} \in \{A_i : i \in I\}$$
$$\text{Thus: } [ch^{\star}(\{A_i : i \in I\}) = A_C{}^{\star}] \Leftrightarrow [C_k \mathrel{\square\!\!\rightarrow} A_C{}^{\star}].$$

(3) By virtue of his *scientia libera*, God now knows the concrete factual evaluation of the composition

$$S_P{}^{\star} := ch^{\star} \circ F_P : U \rightarrow A$$

at the position of the created circumstance $C_k{}^{\star}$ (whereby the evaluation for all possible worlds is already contained within the *scientia media*):

$$ch^{\star}(F_P(C_k{}^{\star})) = A_C{}^{\star}$$

The first component is the choice of the free actor, the second component indicates which choices and actions are coherent with the corresponding circumstances (within a coherent framework, i.e. a 'feasible world').[7] These functions are the truth-makers for the ccfs demanded by the grounding objection. They are the medium of knowledge (*medium quo*) by which God contemplates the ccfs, and they are pre-volitional, i.e. not caused by an act of Divine will. They do not, however, represent Platonic entities independent of the Divine intellect, but rather ideas or pre-existent[8] *concepts* in the Divine mind which are ontologically dependent upon it. Of course, it has to be taken into account that distinct concepts within the Divine mind may only be interpreted *modo nostro concipiendi* (according to our mode of understanding): God does not think sequentially in distinct propositions, but contemplates these complete concepts with one *intellectual vision*.

5.2 Determinism, Uniqueness and Law-Likeness

However a consequence-style argument against this model of Molinist Complete Concepts (MCCs) can also be formulated, simply by exchanging *E* with MCC in the original argument directed against the essence solution CA_E:

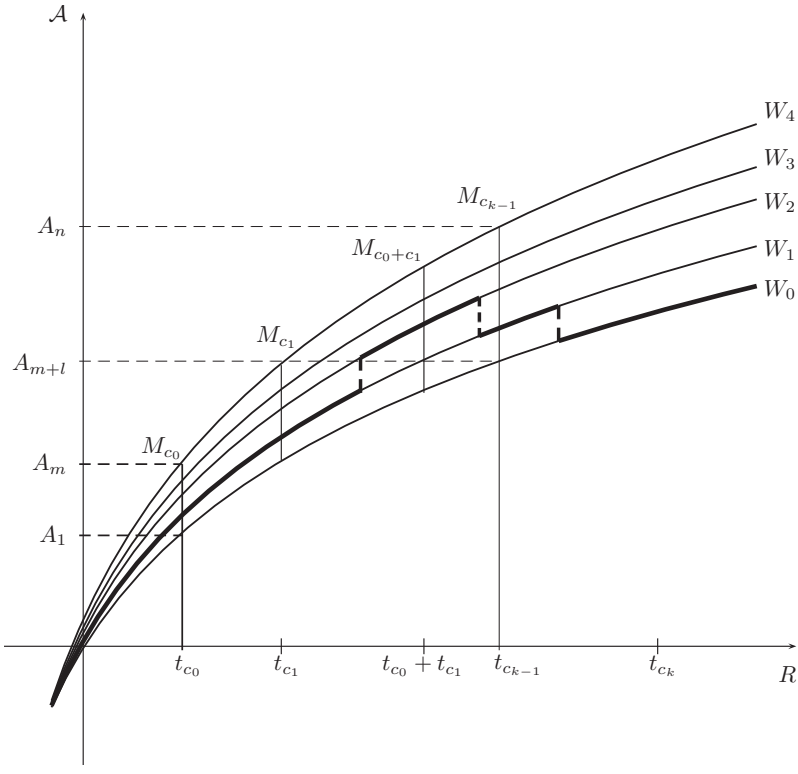
[7] Cf. Flint 1998, 51-54.

[8] The late-scholastic Jesuit Antonio Pérez (1599-1649) already formulated the idea of an intentionally pre-existing *futuritio formalis* for the ccfs (cf. Ramelow 1997, 222-230).

(CA_{MCC})	
(1) $N(MCC \wedge C_k^*)$	Premise
(2) $\Box[MCC \wedge C_k^*) \rightarrow A_C^*]$	Consequence of Molinism
(3) NA_C^*	(1), (2), Transfer of Necessity

But here, in the case of MCC, there are notable differences from the earlier argument directed against the essence solution. This can best be demonstrated by providing a graph:

If one ascribes to every circumstance $C_k \in U$ a time-index t_{ck}, it has the effect that the complete concept of an individual *P* can be depicted as a bundle of curves.



So to every point of time belonging to a circumstance, a set of possible actions *A* (restricted by the conditions of coherence) is assigned. W_1, ..., W_n present closed world-courses of *P* (this does not require the physical world to be closed deterministically and causally; an interaction between the mental and the physical dimension remains possible).

A given MCC therefore contains the whole spectrum of possibilities for *P*. This is the key difference compared to a deterministic 'Leibnizian Complete Concept' (LCC) which would allow for *one* world-course only. The course represented by the thick black line is the actual world-course of *P* as known by middle knowledge. In the literature this is customarily called the 'thin red line' (TRL), we will follow this convention (cf. Restall 2011). It exhibits discontinuities which are due to the free actions of *P* (it is also possible that *P* remains on the smooth sections of the graphs, which again results from free decisions of *P*).

Absolutely central for our argument is the following distinction: the TRL within a given MCC is on the one hand unambiguous and is known by God as an unambiguous course, but due to the points of discontinuity, the TRL is *missing an essential ingredient to be classified as deterministic*: it does not follow a law-like propagation. But for determinism to hold, more than unambiguousness is required. We define determinism as follows:

Definition. A world-course is *deterministic* if and only if
(1) this course is unambiguous (unique) and
(2) is law-like, i.e. a law determines that an individual, once set on a world-course, can no longer leave it. In the picture above this means: The graph Φ: $R \times A \rightarrow A$ describes a path with

$\Phi(0, A_0) = A_0$,
$\Phi(t, A_0) = A_t$ and
$\Phi(t+r, A_0) = \Phi(r, \Phi(t, A_0)) = \Phi(r, A_t)$.

Thus, if there is a $t \in R$ with $\Phi(r, A_t) = \Phi(r, A_t')$, for given actions A_t and A_t', then $A_t = A_t'$ holds.[9]

Lawlike propagation therefore means that an individual moves forward on its world-course without the possibility of leaving it. If the individual *P* has once entered the state A_0, it is determined on which world course it resides and with this all its positions are set for every point of time.

So determinism entails both unambiguousness as well as lawlike propagation of a world-course. Unambiguousness in itself is not sufficient for the presence of a deterministic process. Lawlike propagation implies unambiguousness, but unambiguousness does not imply law-likeness (cf. Schneider 2009: 130-134). Our model does not obey any lawlike propagation due to the possibility of discontinuities. The TRL

[9] We owe this clarification to Christina Schneider. Cf. Schneider, 'Agent-Causation and Paradigms for God's Knowledge', this volume.

is unambiguous but not deterministic. The MCCs are non-algorithmic: There is no algorithm or inner law unfolding through the MCC. The unambiguousness of TRL is fully sufficient for the infallibility of Divine foreknowledge; an additional lawlike structure is unnecessary.

With this, the consequence argument against MCCs becomes vulnerable: it is not possible to *deduce* the TRL from the MCCs. Thus, step (2) in CA_{MCC} is rejected, namely $\Box[(MCC \wedge C) \rightarrow A]$. There is no necessary inferential connection, or respectively no set of premises and no system of rules, from which the decision or action of the individual in question could be deduced with necessity. The only thing that would be truly deducible is the possibility of a certain action (specified for P): $\vdash (MCC \wedge C) \rightarrow \Diamond_P A$. This has significant ramifications for the ability to do otherwise: while LCCs destroy the ability to do otherwise due to their lack of transworld-identity, this does not hold for MCCs.[10] It is the very idea of an MCC that it has a plurality of world-courses built in. Furthermore, within the framework of the Lewis-Stalnaker semantics it holds that the similarity relations relevant for the verification of ccfs are highly context-dependent (cf. Bennett 2006: 179f.). Obviously, 'God's context' and the contexts of free creatures are fundamentally different (cf. Perszyk/Mares 2011: 104f.). This insight can be spelled out metaphysically with aid of the MCCs. Given a true ccf $C \,\Box\!\!\rightarrow A$, in the 'context of God' it is not metaphysically possible that $C \,\Box\!\!\rightarrow \neg A$. However, in the context of the created individual this is quite possible: while there is an unambiguous TRL within the MCC in 'God's context', the future in the context of a free individual is causally and alethically open. This would not be possible if the TRL in God's context contained a lawlike propagation, or if it were the unfolding of an algorithmic process in addition to the TRL's unambiguousness, for this very unfolding would take place necessarily, i.e. in every possible world in which the individual could be found.

5.3 The Relation Between an MCC and the Subject

The claim that the free individual is not a puppet of its MCC requires a clarification of the relation between MCC and the individual (situated in a created world). As mentioned before, the MCCs are not Platonic entities of which the created individual is merely a 'shadow'. The MCCs are rather concepts in the Divine mind and thus ontologically dependent

[10] Also the counterfactual power explicitly conceded by Molina implies the ability to do otherwise (cf. Perszyk/Mares 2011: 103, fn. 10).

upon it. MCCs (in their ontological status) might be conceived of as forms in the Thomistic sense – a *forma substantialis* cannot claim any autonomy prior to creation and prior to the existence of the matter assigned to it. The *forma substantialis* is not a 'homunculus' within the created individual, governing the individual like a puppet on a string – neither is the MCC. Thus the idea that I am determined by my MCC makes as little sense as the idea that I am determined by my *forma substantialis*. There is no independent and ready-made 'I' which could then be controlled by the MCC.

Furthermore, we think MCCs might best be situated within an atemporal-eternalistic framework.[11] If this is assumed, one cannot implicitly adopt the sempiternalist assumption, according to which MCCs have 'already existed' for an infinite time, and then are governing the course of the history of an individual in time. It is a daunting task to adequately explain the concept of eternity, a task we cannot adequately tackle here. At this point it might suffice to claim that the MCCs represent the abundance of the possible self-realisation-process of an individual. They are the 'complete form' of the individual by virtue of which it can unfold itself free from determination, both from without and from within. The free actions of a created individual are radically up to the individual itself – it *causes* its own actions. By virtue of its 'complete form' it accomplishes its own acts and thereby realizes itself.

VI. SUMMARY

We have seen that a theoretically rigorous approach to the various problems of Molinism leads to a clear distinction between semantic and metaphysical problems. Answers to semantic problems do not provide answers to the metaphysical problems that arise from the theory of middle knowledge (Perszyk/Mares 2011: 98). The attempt to solve the grounding objection by referring to semantic principles (such as CEM) is inadequate. The question of the prerequisites of the verification of the ccfs requires a metaphysical answer. The only way to verify prevolitionally given ccfs is to verify them intensionally, i.e. by an insight into the essence of possible individuals. But this 'essence solution' creates new problems, like the problem of superessentialism. A consequence-style argument

[11] Molina himself explicitly defends the Thomistic atemporal eternalism in Concordia, disp. 48: 2 and 10ff. (cf. Jäger, 'Molinism and Theological Compatibilism', this volume).

against the essence solution can be construed which runs parallel to the consequence-style arguments against Standard-Molinism. The new model here suggested states that there exist '*possibilistic*' *complete concepts* instead of essences within the Divine mind, which are the *medium quo* of Divine knowledge, ontologically dependent upon it. We have shown that this does not imply Leibnizian superessentialism. These 'Molinist Complete Concepts' are represented by composed choice-functions, which contain the whole spectrum of possible world-courses of the respective individual. By virtue of His middle knowledge, God contemplates a unique 'thin red line' (TRL) of factual choices among these possible world-courses, but this TRL is not a deterministic course. Determinism requires both uniqueness of a world-course and a law-like propagation. Within the proposed mathematical model it can be demonstrated that the unambiguousness of the TRL does not imply law-likeness. The Molinist Complete Concepts do not describe algorithmic automata. Humans are not reduced to automata. The individual is not a 'puppet on a string' of an inner law determined by its complete concept. The relevant consequence-style argument against this form of Molinism can thus be rejected. There is no necessary inferential connection between the complete concept and the decisions of an individual.

In addition, this account of Molinism provides an argument for the claim that within God's context there can be a unique TRL, while in the context of the respective created individual its future is open. A Molinism that solves the grounding objection almost inevitably produces a tension with free will. Whatever grounds middle knowledge is prior to human free choice. Our model dissolves this worry. Molinist Complete Concepts ground middle knowledge within the very being of the agent herself. It even makes perfect sense to claim that, while the future is open from a human point of view, it is accessible to Divine understanding. If the latter fact is considered a threat to human free will for independent reasons, then Open Theism may be the only choice for the libertarian. Our model, however, provides an understanding of Molinism that does not eschew spelling out the metaphysics of the theory. We do not take the truth of the counterfactuals of freedom as inexplicable basic facts. Still, we preserve a rather robust conception of libertarian freedom within the Molinist framework.[12]

[12] Acknowledgment: This paper was originally presented in Munich, at a conference for the Analytic Theology Project, generously funded by the John Templeton Foundation.

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COSMIC PURPOSE AND THE QUESTION OF A PERSONAL GOD

ANDREW PINSENT

University of Oxford

Abstract. Purported evidence for purposeful divine action in the cosmos may appear to warrant describing God as personal, as Swinburne proposes. In this paper, however, I argue that the primary understanding of what is meant by a person is formed by the experience of 'I' – 'you' or second-person relatedness, a mode of relation with God that is not part of natural theology. Moreover, even among human beings, the recognition of purposeful agency does not invariably lead to the attribution of personhood in the usual sense. 'Person' is therefore a misleading term to use of God on the evidence of cosmic purpose alone in the absence of suitable revelation.

INTRODUCTION

I begin with an extract from John Wisdom's influential paper 'Gods', published in the *Proceedings of the Aristotelian Society* in 1944:

> Two people return to their long neglected garden and find among the weeds a few of the old plants surprisingly vigorous. One says to the other 'It must be that a gardener has been coming and doing something about these plants.' Upon enquiry they find that no neighbour has ever seen anyone at work in their garden. The first man says to the other 'He must have worked while people slept.' The other says 'No, someone would have heard him and besides, anybody who cared about the plants would have kept down these weeds' ... Each learns all the other learns about this [what happens to gardens generally without attention] and about the garden. Consequently, when after all this, one says 'I still believe a gardener comes' while the other says 'I don't' their different words now reflect no difference as to what they have found in the garden, no

> difference as to what they would find in the garden if they looked further and no difference about how fast untended gardens fall into disorder.[1]

Wisdom's 'parable of the gardener' achieved fame in the twentieth century principally through its reformulation in an article by Anthony Flew, 'Theology and Falsification', an article published initially in an undergraduate journal while Flew was still unambiguously an atheist. Flew gave the parable a more polemical edge than the original version, articulating the challenge in the starkest terms, 'Just how does what you call an invisible, intangible, eternally elusive gardener differ from an imaginary gardener or even from no gardener at all?'[2] For Flew, therefore, theological utterances about purposeful divine action in the cosmos are incapable of falsification and endemically evil, a judgment that was described as continuing to haunt the discussion of religious language nearly three decades later.[3]

Perhaps surprisingly, considering that Wisdom offered a parable rather than a proof, responses to the challenge of falsification have often tacitly accepted the premise that the cosmos does in fact present an ambiguous face to those seeking evidence for divine action.[4] In recent

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[1] J. Wisdom, 'Gods', *Proceedings of the Aristotelian Society*, 45, New Series (January, 1944), 191-192.

[2] Flew's commentary was first published at Oxford in the first issue of an ephemeral undergraduate journal called *University*, which is now difficult to obtain, but the reprinted material can be found in Antony Flew and Alasdair C. MacIntyre, *New Essays in Philosophical Theology* (London: SCM Press, 1955), pp. 96-108. Flew gave the parable a polemical edge, describing explorers attempting to detect the gardener, whom no one has ever seen, by surrounding the clearing they have found with an electrified barbed-wire fence and patrolling it with bloodhounds. Such additional elements were, of course, gratuitous: advocates of physicalism are, of course, perfectly content to accept invisible and intangible causal agents provided they are sufficiently regular and well-behaved: gravitational fields and neutrino beams being contemporary examples. Flew's views on God apparently changed later in life; see Antony Flew, *There is a God: How the World's Most Notorious Atheist Changed His Mind*, 1st ed. (New York: HarperOne, 2007).

[3] Larry R. Churchill, 'Flew, Wisdom, and Polanyi: The Falsification Challenge Revisited', *International Journal for Philosophy of Religion*, 3, no. 3 (1972), 185.

[4] Hence in the years following Wisdom's paper, a great deal of work was done on the philosophy of perception and the *gestalt* that is sometimes associated today with right-hemispheric cognition of the world. For some subtle early work on the philosophy of perception, see Michael Polanyi, *Science, Faith and Society* (London: Geoffrey Cumberlege, Oxford University Press, 1946). For an account of religious belief shaping a person's 'seeing as' experience of the world, see, for example, John Hick, *God and the Universe of Faiths: Essays in the Philosophy of Religion* (London: Macmillan, 1973), especially chap. 3. For neuroscientific evidence that may reinforce the importance of perceiving some kind

decades, however, there have been some unexpected challenges to this assumption. In particular, contemporary physics has suggested that the relative values of many cosmic variables, their so-called 'fine-tuning', seem absurdly precise, rather as if the observers in Wisdom's parable have found that certain of the plants in the garden are growing in perfect rows, aligned to subatomic precision. As a consequence, although the reality and meaning of fine-tuning are still matters of fierce debate, the question of the discernment of divine, purposeful action in the cosmos has remained a surprisingly vigorous one.[5]

Without attempting to adjudicate this debate, I want in this paper to examine critically an inference that is often made or implied by the purported discernment of such action. Most discourses about a 'first cause' in natural theology or philosophy, such as an 'unmoved mover' or 'necessary ground of being' or 'that greater than which nothing can be conceived', do not in themselves convey any sense that this first cause could or should be described as personal. Cosmic purpose is different, since purpose is often associated with personal agency in daily life.

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of *gestalt* as well as individual facts, see the account of the effects of right-hemispheric brain damage in Iain McGilchrist, *The Master and his Emissary: the Divided Brain and the Making of the Western World* (New Haven; London: Yale University Press, 2009), chap. 2. Note also Churchill's comment, that a believer, in order to communicate the difference made by a religious perspective on the world, will 'always and of necessity employ myths, parables, metaphors and sketches', that is, modes of discourse that communicate contextual frameworks and evoke embodied experiences: Churchill, 'Flew, Wisdom, and Polanyi: The Falsification Challenge Revisited', p. 185. Yet as contemporary talk of 'selfish' or 'selfless' genes and other examples testify, the association of the objects of science with grand narratives and metaphors that are not in themselves falsifiable is scarcely unique to a religious perspective and may be an important, even indispensable aspect of what it means to cognize the world in any kind of ordered manner. As examples of divergent grand narratives applied to similar scientific facts, see Richard Dawkins, *The Selfish Gene: 30th Anniversary Edition*, 3rd Revised ed. (Oxford: OUP, 2006) and Charles Foster, *The Selfless Gene: Living with God and Darwin* (London: Hodder & Stoughton, 2009).

[5] For contrasting views and an overview of some of the strengths and weakness of the multiverse proposal, see Robert J. Spitzer, *New Proofs for the Existence of God: Contributions of Contemporary Physics and Philosophy* (Grand Rapids, Mich.; Cambridge, UK: William B Eerdmans Publishing Co, 2010) and Victor J. Stenger, *Fallacy of Fine-Tuning* (New York: Prometheus, 2011). For a good overview of the range of philosophical positions regarding fine-tuning, see Ernan McMullin, 'Anthropic Explanation in Cosmology', *Faith and Philosophy*, 22, no. 5 (2005): 601-614. It should be noted that theoretical physicists do tend to see fine-tuning as a 'problem' at present; see, for example, Lee Smolin, *The Trouble with Physics: The Rise of String Theory, The Fall of a Science, and What Comes Next* (New York: Houghton Mifflin Harcourt, 2006), especially chap. 11.

In Wisdom's parable, for example, the invisible agent who may or may not be causing change in the garden is not a mere inanimate force, a living being or even some complex machine that weeds and waters automatically. A gardener, invisible or not, is a personal agent, applying abstract thought, combined with artistry to achieve some goal. When a garden shows evidence for such action, we therefore have no hesitation in classifying the agent responsible as 'someone' rather than 'something', to adopt Spaemann's phrase.[6] Can the same inference be made for God? In other words, if the evidence shows that the cosmos has been put into an unexpectedly ordered state as a result of purposeful action by a rational agent, would it be reasonable to infer that this agent is also best described as 'someone' rather than 'something'?

Of course, one could simply *define* persons in terms of their capacity for rational, intentional action, as, for example, Swinburne does,

> In personal explanation the occurrence of an event *E* is explained as brought about by a rational agent or person *P*, having the intention *J* to bring about *E* ... Clearly the theist, in claiming that there is an omnipotent spirit, God, who makes or brings about (or permits the bringing-about of) all logically contingent things apart from himself, is using personal explanation.[7]

In Swinburne's approach, it seems that a rational agent intending to bring about some state of affairs is a 'person', and God is therefore personal on the basis of divine action of this kind, but I fear that such a definition begs the question. In addressing this issue, however, I make the following caveats.

First, 'purposeful' action is an ambiguous concept, part of a broad spectrum of apparently teleological actions in nature. When ancient artefacts such as the Antikythera mechanism are discovered, we have no hesitation in concluding that these objects were deliberately designed and constructed for some purpose, yet the term 'purpose' is also frequently attributed to agents that are not normally regarded as persons.

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[6] Robert Spaemann, *Persons: The Difference Between 'Someone' and 'Something'* (Oxford: Oxford University Press, 2006).

[7] Richard Swinburne, *The Coherence of Theism*, Rev. ed. (Oxford: Clarendon Press, 1993), pp. 137, 141-142. See also *The Existence of God*, 2nd ed. (Oxford: Clarendon Press, 2004), pp. 21, 35–45 in which Swinburne defines personal explanation as an explanation of a phenomenon as brought about intentionally by a rational agent, a 'person' who has 'at least the complexity of sensations, desires, beliefs, etc. typical of human beings'.

Many non-human animals are naturally described as showing evidence of voluntary, 'purposeful' action and some even use tools to achieve complex goals.[8] At a broader level of generalisation, even plants have been found to 'select' growth strategies to attain goals conducive to their flourishing, as in the case of the dodder plant that can distinguish wheat and tomato plants at a distance.[9] At the broadest level of all, immanent end-directed action is increasingly recognised as an irreducible property of complex dynamical systems that are not even living.[10]

The only category of 'purpose' relevant for considerations of possible divine cosmic action, however, must be that which involves the understanding and selection of abstract principles and goals, such as those pertaining to the formal relations of purported fine-tuning. These kinds of purposeful actions are reasonably easy to identify when examining the actions of biological beings. Birds, for example, display great intelligence in navigation and building nests but they do not bury their dead, build astronomical mechanisms or construct their nests in the gothic style. To give another example, a rabbit may decide to eat a carrot, but not every third carrot.[11] Such activities require understanding and intending abstract goals, capabilities that are, among animals, uniquely attributed to human and hence personal agency. The question is whether the same attribution of personal agency could also be made of God on the basis of purposeful action involving abstract principles and goals in the cosmos.

Second, the objection could be made that the notion of a person and a personal God first arose in the context of theology, specifically

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[8] The Antikythera mechanism is a highly complex artefact of some thirty interlocking bronze gears discovered northwest of Crete at the beginning of the twentieth century. Although there is still some doubt as to its intended use, there is no doubt that this artefact was brought about by a rational agent or agents who had the intention to create it for some purpose. See, for example, Derek De Solla Price, 'Gears from the Greeks: The Antikythera Mechanism – A Calendar Computer from ca. 80 B.C.', *American Philosophical Society*, 64, no. 7 (1974), 1-70. For an argument that the term 'purpose' is also warranted in interpreting the actions of non-human animals, see, for example, Mary Midgley, 'Why the Idea of Purpose Won't Go Away', *Philosophy: The Journal of the Royal Institute of Philosophy*, 86, no. 338 (October 1, 2011), 545-561.

[9] Daniel Chamovitz, *What a Plant Knows* (Oxford: Oneworld Publications, 2012).

[10] See, for example, Gianfranco Basti, *Filosofia Della Natura e Della Scienza*, vol. I (Rome: Lateran University Press, 2002).

[11] The example of the bird building a nest in the gothic style is taken from Gilbert Keith Chesterton, *The Everlasting Man* (London: Hodder & Stoughton, 1925), chap. 1. I am grateful to John Haldane for the example of a rabbit eating every third carrot.

Christian revealed theology.[12] Given that pre-Christian philosophy did not conclude that God is personal, it would seem plausible that natural theology would also fail to reach this conclusion more generally, if the doctrinal and cultural influences of revealed theology were stripped away. The response could be made, however, that the question is still an open one for two reasons. First, at least some of what is said of God in pre-Christian philosophy could be construed as personal language, such as, for example, the notion of following in God's company or friendship in Plato's later writings.[13] Second, although historically the idea of a personal God developed from the working out of Christian revelation, this fact does not in itself rule out the possibility that such an insight might have been derived by natural reason alone in some other way, sooner or later.

Third, there are many on-going controversies surrounding the question of whether or not the notion of a personal God is coherent, drawing from the dissimilarities between God's existence and our own, such as atemporal versus temporal existence.[14] In this paper, however, I restrict myself to a more basic issue. If divine action in the cosmos can be identified and if such action is purposeful, involving the selection of abstract principles and goals, is it reasonable to conclude on this basis that God is personal? If so, then a debate can still take place over the coherence of the term 'person' in the light of the other purported attributes of God, such as simplicity. If not, then it is unlikely that the question is going to arise anyway, since it is cosmic purpose that seems the most promising basis on which to conclude that God is personal on the basis of natural theology alone. Either way, examining the link between the discernment of purpose and the ascription of personhood is an important one.

THE ASCRIPTION OF PERSONHOOD

On what basis do we call some being a 'person'? A definition is not straightforward since persons are not a subdivision of some broader

[12] 'We began to speak of God as a person only when we began to speak of three persons in one God.' Spaemann, *Persons*, p. 40.

[13] See, for example, Plato, *Laws*, IV, 716a-b.

[14] For some recent criticisms of the coherence of the notion of a personal God, especially as presented in the arguments of Swinburne, see Herman Philipse, *God in the Age of Science? A Critique of Religious Reason* (Oxford: Oxford University Press, 2012), pp. 109-119.

genus in the way in which man is a 'rational animal' in the biological world. Boethius' famous definition of a person as an individual substance of a rational nature has long been recognized as unsatisfactory and one cannot rely on equating being a person with being human if the issue to be examined is the personhood of God.[15] Much contemporary philosophical discussion about persons is framed in terms of ethics, an example being Timothy Chappell's description of persons as belonging to the 'primary moral constituency'.[16] With this focus, the main tasks of philosophical argumentation have been to determine the extent of application of the term 'person', starting from the basis that all or at least some human beings are 'persons', and to examine what this attribution means for ethical decisions. In these discussions, personhood is the 'whatever it is', if anything, that is added to being a human being to warrant the dignity of belonging to the 'primary moral constituency'. Contemporary discussions of whether certain higher animals can be considered 'persons' are essentially of the same kind, that is, ethical questions in disguise, and insofar as they give a definition of 'person' they tend to fall back on Locke's identification of personal identity with a distinct, persisting incommunicable consciousness.[17] Such discussions do not, however, bring us any nearer to a resolution of the issue of whether God can be considered personal, since God is not a member of our species, or any species. Furthermore, even if Locke's approach to personal identity is not problematic in itself, it does not seem especially helpful for the problem at hand. Attempting to adjudicate on the personhood of God using the criterion of distinct, persisting incommunicable consciousness seems both inherently challenging and difficult to relate to purported evidence of cosmic divine action. Are there any other ways to address this question?

On this issue, I refer to Spaemann, who excels in highlighting the many peculiarities of the term 'person'. Persons, he notes, are not simply members of a class and 'do not share personhood as a common attribute,

[15] Boethius, *De persona et duabus naturis*, c. 2. For some early criticisms of Boethius' definition of a person by Richard of St Victor, see Spaemann, *Persons*, pp. 29-30.

[16] Timothy Chappell, 'On The Very Idea Of Criteria For Personhood', *The Southern Journal of Philosophy*, 49, no. 1 (2011), 1-27.

[17] An example is the discussion of whether some animals could be considered as 'persons' in Peter Singer, *How Are We To Live? Ethics in An Age of Self-Interest* (Oxford: Oxford University Press, 1997), pp. 110-111. See also John Locke, *Essay Concerning Human Understanding*, II.27, 'Of Identity and Diversity' (1690).

in the way that human beings share humanity'.[18] For example, there is no doubt that 'I' refers to something real, but,

> When we say 'I', we are not referring to '*an* Ego' – a pure invention of the philosophers! – but to a particular living creature, a particular human being identified by other speakers with the use of a personal name. But when this particular human being identifies the selfsame person that he or she actually *is*, the term 'I' is used.[19]

Spaemann goes on to point out various peculiarities with this self-identification, notably that there is no unclarity about what 'I' refers to, regardless of any qualitative features whatsoever, even to the extent of someone forgetting who he is, robbed of memory and even forgetting that he is a human being. This latter point sets up an argument that being 'I' and being a human being are not simply interchangeable, a point reinforced by the fact that person (*hupostatis*) was specifically distinguished from having a nature (*phusis*) in the development of the early Christology and Trinitarian theology from which the concept of a 'person' first emerged.[20] He also highlights the inherent uniqueness, subjectivity, singularity, irreducibility and incommunicability of the one who says 'I', from the perspective of the one who says this. This 'I' is a relational uniqueness, since, according to Spaemann, this is defined by a 'place' in the universe relative to everything else that can never be that person.[21]

These observations serve to underline how my own personhood, at least, is not something that is reducible to an objective state of affairs, even being a member of the human species, but what about the personhood of others, which is the key issue in addressing the question of the personhood of God? To what, or rather to *whom* – the distinctiveness of the grammar manifests the distinctiveness of the task – can 'I' or anyone else who self-identifies as 'I' ascribe personhood? Some clues from the language we use to denote persons may help to shed light on this problem. In many languages, the third-person forms are ambiguous, that is to say, the same grammatical structures can be used to describe the states of affairs of both personal and impersonal beings, and the reports of the actions of a distant agent may or may not lead us to infer that this agent is a person. The second-person forms are different. To use the

[18] Spaemann, *Persons*, pp. 16, 62.
[19] Ibid., p. 9.
[20] Ibid., pp. 10, 28.
[21] Ibid., p. 37.

'you' form is to acknowledge that one is addressing a person, who is also irreducible and unique, and 'I' and 'you' are paired in language, a point to which Martin Buber famously drew attention.[22]

So what are the circumstances that shape the use of the second-person forms in grammar? This question is not easy because in the standard ways of expressing how we know others, that is, theorizing that a thing has a mind or a particular kind of internal causal structure, it is unclear how exactly 'it' becomes 'you', a point Jane Heal has mentioned. For this reason among others, some researchers have suggested that the origins of the distinctive second-person grammatical forms are to be found in varieties of interpersonal relatedness that precede the acquisition of language and which go under the name of *joint attention*.[23] Examples of such interactions include pointing out objects to others, reciprocal smiling, lifting hands to be picked up and so on, activities that have been described as a 'sharing an awareness of the sharing of the focus' with another person, arguably the primordial mode of interpersonal communication in a human life.[24] A close association of joint attention and second-person relatedness is also suggested by the fact that an inhibition of the former is often correlated with difficulties in learning and using the second-person forms of grammar correctly.[25]

Experiences of joint attention are not just important for shaping the use of the second-person form in grammar, however, but are, I suggest, the primary experiences for shaping our understanding of persons generally. As Iain McGilchrist has argued, every word, sooner or later, has 'to lead us out of the web of language, to the lived world, ultimately to ... something that relates to our embodied experience'.[26] In the case of the word 'person', when we hear or read this word, our understanding is shaped by our embodied experiences of persons. A plausible candidate for the most significant of these embodied experiences is second-person

[22] Martin Buber, *Ich und Du*, 1 aufl. (Leipzig: Insel-Verlang, 1923).

[23] See, for example, Jane Heal, 'Joint Attention and Understanding the Mind', in *Joint Attention: Communication and Other Minds: Issues in Philosophy and Psychology*, ed. by Naomi Eilan et al. (New York: Oxford University Press, 2005), pp. 34-44 (p. 41).

[24] Naomi Eilan, 'Joint Attention, Communication, and Mind', in Eilan et al., *Joint Attention*, pp. 1–33. The phrase 'sharing an awareness of the sharing of the focus' is from Peter Hobson, 'What Puts Jointness into Joint Attention?', also in *Joint Attention*, pp. 185–204 (p. 185).

[25] Andrew Pinsent, *The Second-Person Perspective in Aquinas's Ethics: Virtues and Gifts* (New York; Abingdon, UK: Routledge, 2012), pp. 47-49.

[26] McGilchrist, *The Master and his Emissary*, p. 116.

relatedness or joint attention, since these experiences are uniquely with other persons, play a crucial role in human development from a very young age and continue throughout life for as long as a person is in any kind of social setting. All kinds of other experiences may, of course, be associated with the term 'person', but it is, I suggest, this experience of relating as an 'I' to a 'you' that is primary for most of us in grounding the meaning of the word and which also, it has been argued, underpins much of the ethical significance of the term 'person'.[27]

At first glance, therefore, it seems that any possibility that God can be regarded as personal on this basis can and should be dismissed within natural theology. God's divine nature is spiritual and is not present to our senses the way that human persons are. In addition, the kinds of activities that might be interpreted as enabling second-person relatedness to God by other means, such as inspired narratives, covenants, liturgies, and modes of relation associated with the Incarnation, seem to be exclusively the prerogative of revealed or supernatural theology.[28] Moreover, even the use of second-person forms to address God is uncommon in classical philosophical texts that refer to divine matters, in marked contrast to the frequent use of 'you' to denote God in later Christian writings, such as those of Augustine. These structural and grammatical differences arguably underline that second-person relatedness to God pertains exclusively to revealed theology.[29]

Nevertheless, the situation is not entirely hopeless. There are many human beings, for example, whom we have never met and may never meet, who we still regard as persons insofar as we are members of the same species, the typical perfection of which includes the ability to relate in a second-personal way as circumstances allow. Moreover, our experience of persons also teaches that those beings to whom we relate second-personally are also the ones uniquely capable of abstract reasoning and goals. Given that all the beings that we know to be capable

[27] A recent argument for the importance of second-person relatedness in grounding ethics is Stephen Darwall, *The Second-Person Standpoint: Morality, Respect, and Accountability* (Cambridge, Mass.; London: Harvard University Press, 2006).

[28] For a recent study of key Scriptural narratives interpreted in the light of second-person relatedness to God and others, see Eleonore Stump, *Wandering in Darkness: Narrative and the Problem of Suffering* (Oxford: Clarendon Press, 2010).

[29] Classical texts tend to refer more or less exclusively to God in the third-person, for example, Aristotle, *Metaphysics*, XII, 7, 1072b14-30. By way of contrast, see, for example, the famous prayer, 'Late have I loved you', in Augustine, *Confessions of St. Augustine, Books I-X*, trans. Francis J. Sheed (New York: Sheed & Ward, 1942), X.27.

of such reasoning are also personal beings, is there any warrant for describing God as personal on the same basis, namely the discernment of purposeful divine action involving abstract reasoning in the cosmos?

Adjudication is not easy, because agents capable of abstract reasoning and goals are almost invariably identified as persons in the normal way, to the extent that it may be hard to imagine an alternative classification. Nevertheless, some intriguing exceptions have emerged from recent work in experimental psychology. Peter Hobson describes an experiment that tested sixteen children and adolescents with autism and sixteen others without autism who were similar in age and linguistic ability. These children were shown an experimenter performing a variety of actions with some simple objects and, at a later time, they were given the same objects and asked to use them. Although most of the children repeated most of the actions they had seen the experimenter perform, a marked difference emerged as to how they used the objects. In Hobson's words,

> The children without autism were imitating the *person* of the experimenter, and in so doing they assumed his style as well as his approach to accomplishing each goal. The children with autism watched and imitated the *action* rather than the person doing the action.[30]

Those with autism therefore cognized the purposeful actions of these agents to the point of being able to imitate their actions readily, but they did not cognize the agents as persons in the normal way.

Some caveats and clarifications are needed. Those with autism do not have any particular difficulty in recognising that persons are unique kinds of beings in the world, and perform just as well as those without autism in distinguishing persons from non-persons.[31] Those with autism do not, however, generally engage in joint attention activities such as pointing and, as they learn language, they have a peculiar difficulty in using the 'I' and 'you' forms in grammar correctly, a phenomenon known as pronoun reversal.[32] As a result, the primary metaphoric understanding of the term

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[30] Hobson, 'What Puts Jointness into Joint Attention?', p. 200.

[31] Ibid., p. 191.

[32] Leo Kanner, 'Autistic Disturbances of Affective Contact', *Nerv. Child*, 2:220 (1943); reprinted in Leo Kanner, 'Autistic Disturbances of Affective Contact', *Acta Paedopsychiatrica*, 35, no. 4 (1968), 100-136. For a comparison of pronoun reversal in autistic and Down's syndrome children, see, for example, Helen Tager-Flusberg, 'Dissociations in Form and Function in the Acquisition of Language by Autistic Children: Studies of Atypical Children', in *Constraints on Language Acquisition: Studies of Atypical Children*, ed. by Helen Tager-Flusberg (Hillsdale, N.J.; Hove: Erlbaum, 1994), pp. 174-194 (p. 184).

'person' that is, for most of us, drawn from the experience of second-person relatedness, is absent from their worldview, an absence manifested in the way they are sometimes described as not 'seeing' persons at all.[33]

What is striking about these results is that the situations being described involve only human persons carrying out human actions in human ways, and yet the recognition of purposeful agents does not invariably lead to an ascription of personhood in the way that the term 'person' is understood typically. In the case of cosmic divine action, the situation is disproportionately more challenging. Even if we discern the intelligent order we expect of purposeful action, perhaps with the bonus of perceiving a certain artistry in the cosmos – as might be claimed of the elegance of the laws of physics or of beautiful fractal structures such as the Mandelbrot Set – this is not the same as discerning the purpose.[34] Indeed, many theists and atheists concur that what the divine purpose is or even whether this purpose is good in terms of ultimate human (or other) flourishing are notoriously difficult to determine on the basis of our natural knowledge of the world alone.[35] Moreover, if there is a God who has acted in a purposeful manner in creation, the ways in which any such purposes are achieved seem, to the best of our knowledge, very different to the ways in which human persons go about achieving their goals.

So there seems to be little warrant for describing God as personal on the basis of the discernment of purposeful action in the cosmos alone. The use of the term 'person' may even be misleading, since the metaphoric understanding of the word is shaped by experiences of second-person relatedness that are inapplicable to a relationship to God in the absence of divine help. If there is any hope of connecting the

[33] Clara Claiborne Park, *The Siege: The First Eight Years of an Autistic Child (With an Epilogue, Fifteen Years After)* (Boston, London: Little, Brown and Company, 1982), p. 93.

[34] Heinz-Otto Peitgen and Peter H. Richter, *The Beauty of Fractals: Images of Complex Dynamical Systems* (Berlin: Springer-Verlag, 1986).

[35] As an example from a theistic perspective, Newman claims that we cannot gain knowledge of God's purposes simply from the study of the cosmos, as shown by his claims in the following passage, 'Religion, it has been well observed, is something *relative to us*; a system of commands and promises of God *towards* us. But how are we to be concerned with the sun, moon, and stars? Or with the laws of the universe? ... They do not speak to sinners at all. They were created before Adam fell. They "declare the glory of God", but not his will.' See John Henry Newman, 'Sermon XXIV: The Religion of the Day', in *Parochial and Plain Sermons: Volume I*, New ed. (London; New York: Longmans, Green, 1891). As an example from an atheistic perspective, see Philipse, *God in the Age of Science?*, pp. 256-278.

discernment of cosmic purpose with the discernment of the personhood of God, the most promising approach may in fact work in the opposite direction. Cultures shaped by the revelation of a personal God with whom second-person relatedness is possible may tend to perceive the cosmos in certain beneficial ways, for example with the expectation that it is ordered and that at least some aspects of this order can be known by us. Such a perspective seems *prima facie* to be a more promising starting point than a deep-rooted belief in cosmic disorder, accidental order, or a remote and unknowable deity.[36] An argument may then be possible that resembles Pascal's wager, insofar as a commitment to faith in a personal God may be seen to be a fruitful cultural wager for understanding and representing the natural world, for example in art.[37] Nevertheless, such a method is at best likely to yield only certain fruitful signs rather than anything approaching a rigorous proof.

[36] For an early example of this perception of cosmic order in the light of revelation, see, for example, this text from what is perhaps the earliest authentic Christian document outside of the New Testament, the *First Letter of Clement*, 20, 'The heavens, revolving under his government, are subject to him in peace. Day and night run the course appointed by him, in no wise hindering each other. The sun and moon, with the companies of the stars, roll on in harmony according to his command, within their prescribed limits, and without any deviation. The fruitful earth, according to his will, brings forth food in abundance, at the proper seasons, for man and beast and all the living beings upon it, never hesitating, nor changing any of the ordinances which he has fixed.' Note that at end of the first century, when the Christian community was small and threatened, this letter communicates a surprising sense of the order and harmony of the cosmos on the grandest scales in the light of the new Christian revelation. The translation is from James Donaldson and Alexander Roberts, eds., *The Apostolic Fathers with Justin Martyr and Irenaeus*, vol. I, Ante-Nicene Christian Library: Translations of the Writings of the Fathers down to A.D. 325 (Edinburgh: T&T Clark, 1867).

[37] Correlation is not, of course, causation and a variety of narratives could be told to explain the same facts about the fruitfulness or otherwise of a culture, but art is instructive because it provides an insight into the context or *gestalt*, often shaped by faith, within which the world is cognized by a society. Second-person relatedness to God as a theme of art, with nature perfected, is a central theme of Van Eyck, *Ghent Altarpiece* or *The Adoration of the Mystic Lamb*, completed in 1432. The emphasis on the themes of revelation gradually faded in the sixteenth century, a transition seen in Joachim Patinir, *The Penitence of St Jerome*, completed c. 1518, and Pieter Bruegel the Elder, *The Harvesters*, in 1565. In later centuries, themes of nature alone often dominate, as in Constable, *The Hay Wain*, 1821, but disintegration of form and loss of hope sets in at least by the time of Van Gogh, *Wheatfield with Crows*, painted in 1890 and Pollock, *Enchanted Forest*, painted in 1947, which has no discernible features left. On balance, the earlier faith-based perspectives on the world, rooted in second-person relatedness to God, seem to have inspired greater order and beauty than their less faith-based successors.

CONCLUSION

Although we are justified in attributing the production of sophisticated artefacts, showing evidence of abstract reasoning and goals, to personal agency, this attribution is only ever indirect, namely that such artefacts are thereby revealed as being the work of human beings and hence of persons such as ourselves. In the case of God, no such attribution can be made, since God is not, by divine nature, a member of our species or any species. Moreover, even if we succeed in uncovering evidence for purposeful divine action in the cosmos, involving abstract reasoning and goals, the term 'person' is only justified thereby in a Swinburnian sense. Since the meaning of the term 'person' is shaped, for most of us, primarily by the experience of second-person relatedness, the attribution of personhood, whether to other human beings or to God, cannot follow simply from evidence of purposeful agency if there is no pre-existing capacity for second-person relatedness with the agent concerned. In the case of God, such a capacity can only come about as a divine gift. Hence, evidence of cosmic purpose does not in itself warrant us concluding that God is personal in the absence of such a gift.[38]

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FIRST CAUSES: DIVINE AND HUMAN

UWE MEIXNER

University of Augsburg

Abstract. The paper analyzes the concept of a first cause, both for event causation and for agent causation. It turns out that one is rather ready to believe in the existence of first causes that are events, but not in the existence of first causes that are agents. The paper, however, develops and defends a complex argument to the conclusion that there is a first agent-cause. One version of that argument proves – not necessarily the existence of God – but still the existence of a godlike agent. Finally, the notion of a first agent-cause is employed for an analysis of freely willed human action.

There is a kind of causation where the cause is *sufficient* for the realization of the *effect* (that is, for the realization of *what is caused*), the effect being some event: an entity involving a finite spatiotemporal region, particulars, and properties (relational and non-relational ones) had by these particulars within that spatiotemporal region:

(A1) Effects (i.e., what is caused) are always events.

In *sufficient* causation, the cause *determines* the coming-about of the effect-event; the cause does not make the effect-event merely probable, or more probable than it would be without the cause, and the cause is not merely an indispensable factor for the coming-about of the effect-event. In sufficient *event-causation*, *the coming-about of an event* determines the coming-about of the effect-event; in sufficient *agent*-causation, simply *the agent* determines the coming-about of the effect-event.[1]

[1] That in sufficient causation the cause *determines* the effect does not entail that the cause determines *all by itself* the effect. But it does entail that the cause determines the effect *given the factual background* (including laws of nature, circumstances, perhaps divine assistance, etc.). To determine means to guarantee: we have no instance of

In what follows, the phrase 'a cause of' will always mean the same as 'a sufficient cause of', and 'to cause' will always mean the same as 'to be a sufficient cause of'. And these phrases will always be understood to exclude *self-causation*: *Nothing is a cause of itself*. (One may wish to count this as axiom (A0).)

The definition of the concept that is central to this paper is this:

(D) A first cause is a cause without a cause, in other, fully explicit words: a first sufficient cause is a sufficient cause (of some event), but a sufficient cause that itself has no sufficient cause.

It is easily seen:

(T1) If agents are not events, then every agent that is a cause is a first cause.

Suppose we have an agent that is a cause, i.e., that causes some event. If agents are not events, then that agent is not an event, hence it has no cause (for otherwise it would be an effect, and therefore an event, since *effects are always events* according to (A1)).

Now indeed:

(A2) Agents are not events, but substances.[2]

And therefore:

(T2) Every agent that is a cause is a first cause.

Hence:

(T3) If there are agents that are causes, then there are first causes.

But are there agents that are causes? That there are such items is doubted by many, even denied. Doubtless, however, there are *events* that are causes. And if one could find an event that is a cause, but has no cause, then this causal event – though not a causal agent – would also serve as a perfect first cause. But are there events that are causes without having a cause? We do not have purely scientific evidence for the existence of such events. What we do have purely scientific evidence for is merely this:

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sufficient causation if the effect might still have failed to come about even though the cause (agent or event) spent its efficiency (assisted by the factual background); in that case, the cause just wasn't 'enough' for the effect.

[2] No substance is an event, no event a substance. Events have an intrinsic spatiotemporal location and normally also an intrinsic spatiotemporal extension (the exception with respect to the latter trait are *momentary point-events*). Substances do not have an intrinsic spatiotemporal location. Yet substances, too, are concrete individuals. Note that a substance is always capable of causal activity. Thus, all substances are potential agents.

(A3) Some physical events are causes, but there is no physical event that causes them.[3]

Now, at this point, there is a crucial decision to be made in causation-theory. It is not an empirical, it is not a scientific, it is not a conceptual decision; it is a *genuinely metaphysical* decision. A choice is to be made between two very plausible metaphysical principles. One of these two principles is known as *the principle of sufficient causation*:

(A4.1) Every event has a cause.

The other principle is one of the principles known as *principles of physical causal closure*:

(A4.2) Every physical event that has a cause is caused by a physical event.

One cannot adopt *both* principles – because, unfortunately, their conjunction is incompatible with (A3). On the other hand, each of the two principles under consideration has so many credentials on its side that it seems rationally inappropriate to reject *both*. Let's see what would be the consequences if one accepted the one, *or* the other.

(A4.2) is the modernization of a materialistic, or physicalistic, principle that emerged as a metaphysical side-effect of the rise of modern physics. This original principle is the following:

(A4.2) Every physical event is caused by a physical event.*

This latter principle was adopted by all who, inspired by impressive scientific progress, considered a purely immanent world-view – a world-view without transcendence – to be the only rational world-view. The insertion of 'that has a cause' after 'Every physical event' – which is of no detriment to the original metaphysical motivation – became necessary due to the developments in physics in the 20th century; these developments made modern physics entail the falsity of (A4.2*). (A4.2), however, is left quite untouched by them.

Now, obviously, the conjunction of (A3) and (A4.2) logically entails that there are physical events that are causes, but have no cause. Thus, if we add (A4.2) to our list of axiomatic principles (and *not* (A4.1)), then

[3] What does it mean that we have purely scientific evidence for (A3)? It means that as far as we can see by following the rules of scientific methodology, *our best bet* is that (A3) is true. It may, of course, be the case that we just don't see *far enough*. But, so far, there is no reason that might make a substantial reality out of this mere possibility. Note that the mere inventing of theories that exclude (A3) is not a refutation of (A3).

the existence of first causes is established. There are, then, first causes in the form of physical events that are causes without having a cause.

In contrast, it is a straightforward logical consequence of (A4.1) that no event is a first cause. For if an event is a cause, (A4.1) requires that it also *be* caused, that is: have a cause. (A4.1) is a principle that throughout the roughly 2500 years of the history of philosophy was almost universally accepted by philosophers as an absolute requirement of rationality, comparable in this to a law of logic. And when (A4.2*) became prominent in the philosophical consciousness (roughly 300 years ago), it at first peacefully coexisted there with (A4.1); indeed, one could regard (A4.2*) as a mere specialization of (A4.1), as merely spelling out what it is that (A4.1) means for physical events. All of this changed in the 20th century with the establishment of quantum physics and empirical cosmology, and hence of the scientific fact that is stated by (A3). (A3) refutes (A4.2*), and it also refutes *the conjunction* of (A4.2) – which is logically weaker than (A4.2*) – with (A4.1). But (A3) neither refutes (A4.2) *taken by itself*, nor does it refute (A4.1) *taken by itself*. If, tentatively, we add (A4.1) to our list of axiomatic principles (and not (A4.2)), continuing thereby a very long philosophical tradition *in favour* of (A4.1), we get an interesting result: *There are physical events that have a cause, though they are not caused by any physical event.*[4]

Given (A3), one cannot adopt (A4.1) and (A4.2) together, and it does not seem rationally right to reject both. A choice, therefore, has to be made between these two principles. There is no argument that would rationally *force* one to choose (A4.1) rather than (A4.2). But since (A4.1) involves much less of a metaphysical commitment than (A4.2); since, in other words, the rational appeal of (A4.1) is more general than that of (A4.2), and less dependent on the rationality of a specific metaphysical motivation, I herewith adopt (A4.1) as axiomatic, and as a consequence change its label from '(A4.1)' to simply '(A4)':

(A4) Every event has a cause.

And with both (A4) and (A3) as axioms, we now have as a *theorem*:

[4] Moreover, (A4.1) entails the following: *Every physical event that has no physical cause still has a cause*. This is the *positive* metaphysical solution to the so-called *measurement problem* (or rather, *the gateway* to such a solution). The *negative* metaphysical solution of the measurement problem is entailed by A4.2: *Every physical event that has no physical cause has no cause at all*. Whether there is also a non-metaphysical, *scientific* solution to the measurement problem, a solution within *physics,* remains to be seen. (By speaking of 'solutions' here, I mean of course *possible solutions*.)

(T4) There are physical events that have a cause, though they are not caused by any physical event.

But, of course, with (A4) as an axiom, there is no chance that an event is a first cause; if there are first causes, then they must be something else than events. In fact, they must be *agents*, since the following is true:

(A5) Every cause is an agent or an event.

(A5) makes it possible to derive:

(T5) Every first cause is an agent.

Assume that X is a first cause, and assume also that X is an event. But then, according to (A4), X has a cause, and is, therefore, *not* a first cause – contrary to the first assumption. Therefore (holding on to that assumption): X is *not* an event, and therefore: X is an agent (because of (A5), and because X is, qua first cause, also a cause).

I am well aware that some philosophers have proposed facts, or even properties, as causes. But causes must be causally effective, and a property, taken by itself, is not causally effective; a property is only then causally effective – in an analogical way – if it is *had*, *exemplified*, *instantiated* by an object in such a way that the resulting *fact* is causally effective. But a fact, in its turn, is only then causally effective – in a derivative, secondary way – if it is replaceable in this role by a causal event. Causation by facts, in other words, is reducible to causation by events. – There is, therefore, no substantial reason to reject (A5).[5]

But could there not be a cause that is neither an event nor an agent (and also not reducible to either an event or an agent)? If this is a possibility, then it is, at least *so far* and for *us*, an *empty* possibility: we have no idea how to flesh it out, how to substantiate it. Moreover, the *possibility* that (A5) might be wrong (if it is a possibility) does not by itself endanger the

[5] What about *combined* causes? – A group of events that is a cause can be fused into an event that is a cause. A group of agents that is a cause is itself an agent (namely, a group- agent) that is a cause. A cause C that consists of events and agents can be represented by a pair consisting of the event which is the fusion of the events that go into C, and of the group-agent that is made up by the agents that go into C. (If C consists just of one event and one individual agent, then the C-representing pair is, of course, C itself.) If one member of the pair is not necessary for causation, then the *real* cause turns out to be either an event or an agent; if both members of the pair are necessary for causation, then either the event or the agent in the pair are given the role of (sufficient) cause, while the other member of the pair is counted among the items of *the factual background* (see footnote 1). – Therefore: the existence of combined causes does not, in the end, refute (A5).

truth of (A5). As far as we know, (A5) is true. True, it is only true *as far as we know*. But what *we know* is what we have to go by.

(T4) gives rise to the following considerations: Suppose E* is one of the physical events that – according to (T4) – have a cause, though there is no physical event that causes them. Thus:

(a) E* is a physical event.

(b) E* has a cause.

(c) There is no physical event that causes E*.

Hence, by making use of (A5), we have:

(d) E* has a cause that is a nonphysical event or an agent.

Assume now the following additional axiomatic principles:

(A6) Every event that is caused by an event is also caused by an event that is not caused by any event.

(A7) For all x, y and z: if x causes y, and y causes z, then x causes z.

(A7) expresses the transitivity of (sufficient) causation – one of the most uncontroversial principles in causation theory. (A6), in turn, is *the limit principle for the causation by events*. This, to some, may seem a very problematic principle; it actually is no such thing. Suppose (A6) is wrong, and E is an event that is caused by an event, but there is no event that causes E *and* is not caused by any event. It is easily seen (employing (A7)) that a consequence of this supposition is the following: *all causal chains of events that end with* E *are infinite or incomplete*.

Suppose C is a causal chain of events which ends with E and which is neither infinite nor incomplete. (Note that for a normal conception of a causal chain – i.e., for the exclusion of its being a loop – the truth of (A0) is necessary.) Since C is *not an infinite* (but a *finite*) causal chain of events, there is a first event in C, call it 'E_1'. Since C is *a complete* causal chain of events, there is no event that causes E_1. Given the transitivity of causation (i.e., the truth of (A7)) and given that C ends with E, E_1 causes E. Thus there is an event (namely, E_1) that causes E and is not caused by any event – *contradicting* the supposition which introduced E in the first place.

Is this consequence of negating (A6) – namely, the consequence that, for some event E, all E-ending causal chains of events are *infinite or incomplete – more reasonable a priori* than (A6)? I think it is not. Is this consequence *more reasonable on empirical grounds* than (A6)? Again, I think it is not, certainly not given today's physics.

Using the two principles last introduced, we obtain from (d):

(e) E* is caused by an agent.

The first alternative in (d) leads to the result that E* is caused by an agent, just as does (trivially) *the second alternative* in (d). Suppose *the first alternative* in (d) is true: E* is caused by a nonphysical event. With (A6) we obtain: E* is caused by an event E′ that is not caused by any event.[6] But according to (A4): E′ has a cause, G. Since E′ is not caused by any event, G must be an agent (according to (A5)). Since G causes E′ and E′ causes E*, it follows according to (A7): G causes E*. Therefore: E* is caused by an agent.

Consequently we get on the basis of (T2):

(f) There is an agent that is a first cause.

And this result – since, ultimately, it is a logical consequence purely of the axiomatic principles (A0) *to* (A7) – is a *theorem*: a statement logically proven on the basis of those *axioms*:

(T6) There is an agent that is a first cause.

This result chimes perfectly with *the penultimate result* of what has traditionally, since Kant, been called 'the Cosmological Argument for the Existence of God'. But although Thomas Aquinas nonchalantly concludes from *the penultimate conclusion* of the Cosmological Argument – *that there is a first cause* (which Thomas certainly thought to be an *agent*) – its *ultimate conclusion*: *that there is God*,[7] it must be emphasized that this is a *very* problematic last step. Nothing in Thomas Aquinas's argument, and nothing in the modernization of it here presented: nothing in (T6) and the axiomatic principles on which (T6) is based, justifies the conclusion that this agent which is a first cause is God or even *a* god.

But, of course, the modernized Cosmological Argument I have presented here can be strengthened. In order to see just at what point it can be strengthened, consider first the compact presentation of the argument as it is now:

(A0) Nothing is a cause of itself.

(A1) Effects are always events.

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[6] Note that E′ must be a nonphysical event. Otherwise, E′ would be a physical event that causes E* – contradicting (c).

[7] 'Ergo est necesse ponere aliquam causam efficientem primam: quam omnes Deum nominant' (*S. Th.* I, qu. 2, a. 3; see the conclusion of the *secunda via*). Perhaps Aquinas, instead of committing a blatant *non sequitur*, is merely being *modest* here. Note that, after the colon, he is *not* saying 'quae Deus est' or 'quam omnes *convenienter* Deum nominant'.

(A2) Agents are not events, but substances.

(A3) Some physical events are causes, but there is no physical event that causes them.

(A4) Every event has a cause.

(A5) Every cause is an agent or an event.

(A6) Every event that is caused by an event is also caused by an event that is not caused by any event.

(A7) For all x, y and z: if x causes y, and y causes z, then x causes z.

_____[together logically entail among other things]

(T6) There is an agent that is a first cause.

Replace now (A3) by (A3*) (leaving the other axioms – or premises – just as they are):

(A3) The Big Bang is a physical event that is a cause, but there is no physical event that causes it.*

The specific principle (A3*) is just as true from the point of view of modern physics – on the basis of purely scientific evidence – as the unspecific (A3).[8] With it and the rest of the axioms as premises, one can logically deduce:

(T6) There is an agent that is a first cause of the Big Bang.*

From (A3*) and (A4) we get: BB is a physical event that has a cause, but there is no physical event that causes BB. Let A be a cause of BB. According to (A5), A *is an agent or an event*.

In case A *is an agent*, A is not an event (according to (A2)), and therefore A is not an effect (according to (A1)), i.e., A is not caused, in other words: A has no cause. But A causes BB. Thus: there is an agent (namely, A) that is a first cause of BB.

In case A *is an event*, it follows on the basis of (A6) that BB is also caused by an event that is not caused by any event. Let E′ be such an event. It follows on the basis of (A4) that there is a cause of E′, and on the basis of (A5) it follows that that cause (any such cause) can only be an agent (it cannot be an event, since E′ is not caused by any event). Let A′ be such an agent. A′ causes E′, and E′ causes BB, and therefore (according to (A7)): A′ causes BB. Moreover, since A′ is an agent, it is not an event (see (A2)), and therefore not an effect (see (A1)), i.e., A′ is not caused, in other words: A′ has no cause. Thus we have again: there is an agent (namely, A′) that is a first cause of BB.

[8] Footnote 3 applies to (A3*) just as much as it applies to (A3).

An agent that is a first cause of the Big Bang – that is: of the initial event of the Physical World – does seem to be *godlike*. By excluding the causation of the same event (any event) by *several* agents – which is a plausible theoretical step – we can even obtain that *there is one and only one* agent that is a first cause of the Big Bang. Moreover, also in line with traditional theism, the agent that causes the initiation of all of space-time-energy-matter can hardly be denied to be *nonphysical*. However, nothing so far shows that this agent is different from, say, what Schopenhauer called 'the Will', different from a blind, irrational, and basically evil – but nevertheless *transcendent* – source of the Universe. That the First Cause (at least of the beginning) of the Universe is different from such a being is a matter of faith. But, note, it is also a matter of faith that God Himself is different from *such* a being.[9]

Rational theology is not the only field of metaphysics in which first causes prove useful – *action theory* is another, including the philosophy of human freedom of action. I submit that the following *principle of minimal self-determination as a necessary condition of freedom* is true:

> *(A8) I have free will only if it is true of at least one act (i.e., behaviour) of mine that no cause of it is wholly outside of me.*

Note that (A8) spells out a necessary condition of my having free will, not a sufficient one. It is uncontroversial among incompatibilists that (A8) is true – and it can be used for testing the hypothesis of my having free will (and of course also for testing the hypothesis of *your* having free will: just apply (A8) in your own case): Should science show (or make it plausible to assume) that for every act (behaviour) of mine it is true that some cause of it is wholly outside of me, then I do not have free will. I do not know how compatibilists might be right in asserting that I could have (proper) free will even if for *every* act of mine it were true that a cause of it is wholly outside of me. (Remember that 'cause' always means *sufficient* cause here.)

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[9] How does agent-causation stand to *creation*? Agent-causation is a logical species of *creation qua making something actual*. Every instance of agent-causation is ipso facto an instance of making something actual. The reverse is not true: if a substance is made actual, this is not an instance of agent-causation (since substances, being non-events, are never *caused*: see footnote 2 pertaining to (A2) and (A1)). Note that no instance of agent-causation is an instance of *(creation qua) making something metaphysically possible*, and that no instance of making something metaphysically possible is an instance of agent-causation. (But this may be trivially true: if there are no instances of making something metaphysically possible.)

Suppose now that it is true of at least one act of mine that no cause of it is wholly outside of me. This does not mean that I have free will. But it does have interesting consequences. Let D* be an act of mine of which it is true that no cause of it is wholly outside of me. It is uncontroversial that there is an event that causes D*, and hence we can conclude on the basis of (A6) that there is an event E* that causes D* without being itself caused by any event. But according to (A4) E* has a cause, and since it cannot be an event that causes E*, it must be an agent (according to (A5)). Let this agent be A*. Since A* causes E*, and E* causes D*, it follows according to (A7): A* causes D*. Now if A* had a cause, A* would be an effect, and therefore an event (see (A1)); but, following (A2), A* is not an event (because it is an agent). Therefore: A* is not caused. And therefore: A* is an agent that is a first cause of D*. Since, according to supposition, no cause of D* is wholly outside of me, it follows moreover that A* is not wholly outside of me.

What has now been demonstrated is the following theorem:

(T7) If it is true of at least one act of mine that no cause of it is wholly outside of me, then it is also true of at least one act of mine that an agent that is not wholly outside of me is a first cause of that act.

And evidently the conjunction of (T7) and (A8) logically entails the following:

(T8) I have free will only if it is true of at least one act of mine that an agent that is not wholly outside of me is a first cause of that act.

Now, suppose I have free will and, as is required by (T8), there is at least one act of mine, D*, of which an agent, A*, that is not wholly outside of me is a first cause. *Who might that agent be?* Perhaps it is simply *I* (I am, of course, not wholly outside of me). But, in fact, other possibilities seem to me more likely. In my view, a much more realistic position than the one I just considered is this: that I do not cause D*, but that I am merely *a part* of A* – a *necessary* part, though: the rest of A* does not by itself cause D*. And who might the rest of A* consist of? Even if A* is an *in itself minimal* cause of D*, that is: a cause of D* without a proper part of A* being a cause of D*, too – even then there still might be several monadic agents besides me in A*. There seems to be no clue as to who they might be. But, I submit, *God* must be in A* besides me; He, at least, is just as necessary to A*'s being a cause of D* as I am – I as *chooser* (choosing what is to be actualized: D*, thereby also choosing – *implicitly* – all the events that are causally instrumental for this, including, ultimately,

a certain brain-event), He as *enactor* (implementing the actualization of whatever I chose to be actualized).[10]

Vis-à-vis these last ideas, which can only seem utterly speculative to most readers, I would like to emphasize that neither *the axioms* nor *the theorems* in this paper seem to me utterly speculative, epistemologically irresponsible, or irrational. I certainly believe that they provide food for serious thought. Thus, I propose that neither the existence of God nor the existence of human free will is a lost cause – because the existence of agents that are first causes is not a lost cause.[11]

Nevertheless, there are, of course, objections. I will consider three of them, two specifically against my modernization of the cosmological argument, one, more globally, against agent-causation.

Objection 1 (against (A3*)): The Big Bang does not exist, because the Big Bang, if it is anything, is the total physical event which occurs at the first moment of time, and there is no first moment of time (as Stephen Hawking has famously held). *Response*: Even if there is no first moment of time, it does not follow that there is no initial physical event. Note that events, though they are required to be temporally finite according to the notion of event here employed (see the beginning of this paper), are not required by that notion to have a first or a last moment. An initial physical event is a physical event whose temporal region is the initial interval of time – and that interval may be an interval that is *open* on both sides. The Big Bang, then, is the total physical event whose temporal region is the initial interval of time. One might further object that there is not only no first moment of time, but also no initial interval of time. But, by the lights of modern physics (which may be wrong of course, but there is no guide known to be better), the initial interval of time is simply the first interval of time whose duration is *the Planck-time* (that is, 10^{-43} sec). There certainly is such an interval of time (even if there is no first moment of time), and the corresponding total event – the Big Bang – is, as far as we know, correctly described by (A3*).

Objection 2 (against (A3) being the entire scientifically warranted truth): There is purely scientific evidence not only for (A3) but also for

[10] The result can be pictured as follows: {I, God} = $A^* \rightarrow E_1 \rightarrow ... \rightarrow E_N \rightarrow D^*$.

[11] It is interesting to note that, in the presence of (A0) and (A7), *only* by the introduction of agent-causation two principles can be maintained together that *both* seem central to explanatory rationality: *the principle of sufficient causation* and *the first-cause principle*: *if there is a cause of an event, then there is also a first cause of it*. (Both principles together were maintained by Thomas Aquinas, as were (A0) and, implicitly, (A7).)

the existence of physical events that are causes without having a cause. For it is a scientific principle that if a physical event is not caused by any physical event then it is not caused by anything. *Response*: The objection relies on (A4.2) – a principle of physical causal closure – being a scientific principle. No doubt, many scientists employ it; but that, by itself, does not make it a *scientific* principle.[12] In fact, (A4.2) is not a scientific, but a *metaphysical* principle – just like (A4.1), the principle of sufficient causation. It is a metaphysical principle because logical, mathematical, empirical, and esthetical considerations *alone* are not sufficient for warranting its assumption.

Objection 3: The notion of agent-causation, which is necessary for obtaining (T6), (T6*), and (T8), is an irremediably unclear notion. *When*, for example, does it *happen*? Or *how* is a purely agent-caused event *different* from a chance-event? *Response*: This is a stock objection, the merits of which are doubtful. I, for my part, have offered detailed analysis of agent-causation in my books *Ereignis und Substanz* and *The Two Sides of Being*, in the former regarding both creatural and divine agency, in the latter regarding only creatural agency. A comprehensive theory of causation, both of causation by events and causation by agents, can be found in my book *Theorie der Kausalität,* also containing extensive discussions of the literature. Some of the main results of *Theorie der Kausalität* are presented in my paper 'Causation in a New Old Key'. The emergence of creatural agent-causation in the course of natural history is defended in several of my papers, for example, 'The Emergence of Rational Souls' and 'New Perspectives for a Dualistic Conception of Mental Causation'. – And when does agent-causation 'happen'? Instances of agent-causation do not happen, since they – in contrast to the effects involved in them – are not events (and only events can *happen*). But if one absolutely wishes to assign *a time* to an instance of agent-causation, then it is simply the time of the effect that is involved in it.

And, finally, how is a *purely agent-caused event*[13] different from a *chance-event*? This rhetorical question – its implicit *assertion* is: a purely

[12] Many scientists in the past have made successful use – within the very context of their *scientific* endeavours – of the hypothesis that God exists and has created the Universe (for example, Johannes Kepler in his arduous search for the laws of planetary motion). But that, of course, does not imply that the existence of God is a *scientific* principle.

[13] Consider the diagram in footnote 10: the purely agent-caused event in this diagram is E_1 (the brain-event), not D* (the behaviour). A purely agent-caused event is an event

agent-caused event is *in no way* different from a chance-event – is meant to discredit the use of the notion of agent-causation in the incompatibilist analysis of free will, since – as is agreed on all sides – action on the basis of free will is *not* behaviour on the basis of mere chance. But the friend of agent-causation can react to the question in a wholly satisfactory way as follows. If a physical event is not caused by any physical event (and there are such events), then, in principle, it may have no (sufficient) cause at all; in that case (and only in that case) it is an *event of causal chance*: an event that happens without a sufficient cause (an event that 'just happens'). But since a *purely agent-caused* physical event does, after all, happen *with* a sufficient cause, it certainly is *not* an event of causal chance. We therefore have at least one way (illustrated for physical events) in which a purely agent-caused event is different from a chance-event.

However, the notion of *chance-event* can also be construed in a different way than as *event of causal chance*. The notion of *chance-event* can also be construed as *event of teleological chance*. If a physical event is not caused by any physical event, then, in principle, it may so turn out that there is no non-causal ground for it, in other words: that there is *no reason* for it; in that case (and only in that case) it is an *event of teleological chance*: an event that happens *without a reason*. But a *purely agent-caused* physical event is normally caused by its agent *for a specific reason* (one that is given *in the consciousness* or, more generally speaking, *in the mind* of that agent),[14] and thus it is, normally, *not* an event of teleological chance, since there is a reason for it.[15] I allow that sometimes a purely agent-caused physical event may be caused by the agent for no reason at all. In such a case we have an event of teleological chance before us (though not an event of causal chance). But this eventuality does not justify the sweeping unqualified judgment that a (i.e., *any*) purely agent-caused event is *in no way* different from a chance-event.

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which is such that all of its causes are agents.

[14] Note that the reason for causing an event is often present in the mind of the agent without the caused event itself being present (as an intended event) in the mind of the agent. I lift my arm (that is: I cause my arm to rise) in order to make the chairman attend to me; this reason (i.e., non-causal ground) for my action is also the reason for my causing (with the help of God) the initial brain-event in the execution of that action; but that brain-event is certainly not present (as an intended event) in my mind.

[15] It is all-important to keep in mind that the event in question is *not* caused *by that reason* but is caused *by the agent for that reason*. Using Aristotelian terminology, one might say that the agent is the *causa efficiens*, not the *causa finalis* of the event, the reason the *causa finalis*, not the *causa efficiens*.

Perhaps those that assert that a purely agent-caused event is in no way different from a chance-event mean to say something quite different from what they actually say. Perhaps they mean to say that a purely agent-caused event is in *no way empirically distinguishable* from a chance-event? But this, too, is untenable. A purely agent-caused physical event will not normally be an event of teleological chance (see above); and *its not being an event of teleological chance* can, at least sometimes, be made *empirically apparent* (an apparent purposeful context is found into which it fits). A physical chance-event, on the other hand, is always (at least) an event of teleological chance, because as a chance-event it is an event of causal chance or of teleological chance, and if it is an event of causal chance, then necessarily also an event of teleological chance. But also this character of *being (at least) an event of teleological chance*, necessarily belonging to any chance-event, can be made *empirically apparent* at least sometimes (no apparent purposeful context is found into which it would fit). Empirical appearances, it is true, only provide likelihoods, and always leave open the possibility that reality is really other than it appears to be. But if philosophers, who doubt that concept X is empirically distinguishable (in application) from concept Y, require the empirical distinguishability of X from Y *for the legitimacy of* X *as a concept*, then they are ipso facto bound to accept this (the aforesaid) epistemological limitation.

Perhaps those that assert that a purely agent-caused event is in no way different from a chance-event mean to say something else *yet*: that a purely agent-caused event and an event of causal chance are *intrinsically and in event-causal function* in no way different from each other. There is truth in this, but it is almost trivial. The first event of a, in the direction of causes, *finite and complete* causal chain of events could, in principle, be an event of causal chance; *event of causal chance* is one kind of *event without cause-event*. However, the first event of a finite and complete causal chain of events could, in principle, also be a purely agent-caused event; *purely agent-caused event* is another kind of *event without cause-event*. There are no other kinds of *event without cause-event*. Suppose, then, event E* is the first event of a finite and complete causal chain of events. E* is, to our best knowledge, *an event without a cause-event*. But whether that event is, in this function, a purely agent-caused event or, on the contrary, an event of causal chance, *intrinsically* there is no way of telling. *Intrinsically and in event-causal function* (i.e., *qua event without cause-event*), E* *as a purely agent-caused event* is in no way different from E* *as an event of causal chance*.

APPENDIX: The principles (definitional, axiomatic, derived, or alternative) and logical relations considered in the paper

(A0) Nothing is a cause of itself.

(A1) Effects (i.e., what is caused) are always events.

(D) A first cause is a cause without a cause.

(T1) If agents are not events, then every agent that is a cause is a first cause.

(A2) Agents are not events, but substances.

(T2) Every agent that is a cause is a first cause.

(T3) If there are agents that are causes, then there are first causes.

(A3) Some physical events are causes, but there is no physical event that causes them.

(A4.1) Every event has a cause.

(A4.2) Every physical event that has a cause is caused by a physical event.

(A4.2) Every physical event is caused by a physical event.*

(A4) Every event has a cause.

(T4) There are physical events that have a cause, though they are not caused by any physical event.

(A5) Every cause is an agent or an event.

(T5) Every first cause is an agent.

(a) E* is a physical event. [(T4)-based existential instantiation]
(b) E* has a cause. [ditto]
(c) There is no physical event that causes E*. [ditto]
(d) E* has a cause that is a nonphysical event or an agent. [(b), (c), (A5)]

(A6) Every event that is caused by an event is also caused by an event that is not caused by any event.

(A7) For all x, y and z: if x causes y, and y causes z, then x causes z.

(e) E* is caused by an agent. [(d), (A6), (A4), (A5), (A7)]
(f) There is an agent that is a first cause. [(e), (T2)]

(T6) There is an agent that is a first cause.

(A0), (A1), (A2), (A3), (A4), (A5), (A6), (A7) logically implies (T6).

(A3) The Big Bang is a physical event that is a cause, but there is no physical event that causes it.*

(T6) There is an agent that is a first cause of the Big Bang.*

(A0), (A1), (A2), (A3*), (A4), (A5), (A6), (A7) logically implies (T6*).

(A8) I have free will only if it is true of at least one act (i.e., behaviour) of mine that no cause of it is wholly outside of me.

(T7) If it is true of at least one act of mine that no cause of it is wholly outside of me, then it is also true of at least one act of mine that an agent that is not wholly outside of me is a first cause of that act.

(T8) I have free will only if it is true of at least one act of mine that an agent that is not wholly outside of me is a first cause of that act.[16]

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[16] Acknowledgment: This paper was originally presented in Munich, at a conference for the Analytic Theology Project, generously funded by the John Templeton Foundation.

PURPOSEFUL EXPLANATION AND CAUSAL GAPS

STEWART GOETZ

Urisnus College

Abstract. In this paper, I argue that a commitment to science and the methodological commitment to causal closure do not require a rejection of the idea that the choices of souls explain the occurrence of certain events in the physical world. Stated slightly differently, I maintain that one can both affirm science and believe that souls causally interfere in the course of events in the physical world. Such an affirmation and belief are compatible. In short, science vis-à-vis the methodological principle of causal closure poses no problem for souls as explanatory agents.

I.

The majority opinion among analytic philosophers is that there is no explanatory room in the physical world for a soul (assuming that it exists) that chooses for purposes. This is because of the methodological principle of the causal closure of the physical world and the role this principle occupies in science. Given that science requires a commitment to the causal closure of the physical world, it also requires a commitment to the exclusion of souls as explanatorily relevant. In short, if souls exist, they cannot and do not do any explanatory work.

In this paper, I argue that a commitment to science and the methodological commitment to causal closure do not require a rejection of the idea that the choices of souls explain the occurrence of certain events in the physical world. Stated slightly differently, I maintain that one can both affirm science and believe that souls butt into the course of events in the physical world. Such an affirmation and belief are compatible. In short, science vis-à-vis the methodological principle of causal closure poses no problem for souls as explanatory agents.

II.

The experimental cognitive scientist Jesse Bering has recently argued that human beings are believers in soul- or mind-body substance dualism.[1] As Bering sees things, Darwinian natural selection produced a cognitive system that gave rise to this dualistic folk psychology about souls. Similarly, the psychologist Nicholas Humphrey, in his book *Soul Dust*, recognizes the human inclination to believe in substance dualism.[2] Toward the end of his book, Humphrey points out that other scholars also acknowledge this ordinary belief in substance dualism:

> Thus, developmental psychologist Paul Bloom aptly describes human beings as 'natural-born dualists'. Anthropologist Alfred Gell writes: 'It seems that ordinary human beings are "natural dualists", inclined more or less from day one, to believe in some kind of "ghost in the machine"' ... Neuropsychologist Paul Broks writes: 'The separateness of body and mind is a primordial intuition. ... Human beings are natural born soul makers, adept at extracting unobservable minds from the behaviour of observable bodies, including their own.'[3]

Though Bering, Humphrey, Bloom, Gell, and Broks maintain that human beings naturally believe in substance dualism, all of these authors also insist that this belief in substance dualism is false and rests on an illusion. Among academics, the denial of substance dualism is standard fare. What is also standard fare is adherence to a metaphysical thesis known as 'naturalism', which for my purposes I will assume is the position that the final and complete account of all that happens in the physical world must and will exclude (eliminate) irreducible purposeful/teleological explanation. Thus, naturalists affirm that if there is any viable form of mental-to-physical explanation (that is, a mental explanation of a physical event), it will be causal, and no more than causal, in nature. Given their naturalism, these naturalists affirm the ontological principle of the causal closure of the physical world, which for the purposes of this paper I will understand as the thesis that every physical event that is an effect has a complete physical event-cause, where a physical event-cause is a complete explanation of a physical effect event in the sense

[1] Jesse Bering, 'The Folk Psychology of Souls', *Behavioral and Brain Sciences*, 29 (2006): 453-498.

[2] Nicholas Humphrey, *Soul Dust: The Magic of Consciousness* (Princeton: Princeton University Press, 2011).

[3] Ibid., p. 195.

that, given the former and the relevant laws of nature, there is nothing left to be explained about the occurrence of the latter. A commitment to ontological causal closure gives rise to a problem of mental-to-physical causation, the solution to which (if we exclude eliminativism and epiphenomenalism as viable options) seems to require that whatever is mental in nature be identical with what is physical in nature.

Now, if one has any robust soul-body convictions, where mental events are events in souls, then one will not find this naturalist 'solution' to the problem of mental-to-physical causation very attractive. Moreover, if one has any robust convictions about the freedom of the will that are libertarian in nature (I will understand libertarian free will as the freedom to make uncaused choices for purposes), one will have further reason to be sceptical about the naturalist's solution to the problem of mental-to-physical causation.[4] This is because if one believes that a choice is uncaused (here I set aside consideration of agent causation, though the prospects for libertarian free will are not any better with agent causation, given naturalism's commitment to causal closure and the view that every physical effect event has a complete explanation in the form of a physical event-cause), then identifying a choice with a physical event that itself has a complete physical cause entails the end of one's libertarianism.

Finally, if one believes in the reality of irreducible purposeful explanation (that which is not reducible to causal explanation), one will have yet another reason not to accept the naturalist's resolution of the problem of mental-to-physical causation. And if a purposeful explanation of a mental event leaves nothing to be explained about the occurrence of that mental event (in this sense, it is a complete explanation of this event), so that any other explanation of that event would be superfluous, then it is not unreasonable to conclude that there is no causal explanation of that event. But if there is no causal explanation of that mental event, then it cannot be identical with a physical event that has a physical event-causal explanation. Therefore, the naturalist's solution to the problem of mental-to-physical causation will prove unacceptable to the person who believes in irreducible and ineliminable purposeful explanations.

The ontological principle of causal closure has occupied a prominent place in various naturalists' attempts to defend naturalism. However, as E. J. Lowe points out, it is not easy to state a form of the ontological

[4] E. J. Lowe, *Personal Agency: The Metaphysics of Mind and Action* (Oxford: Oxford University Press, 2008), pp. 67-68.

causal closure principle that is not basically a dogma that begs the question against someone who believes in irreducible and ineliminable mental-to-physical causation.[5] Regardless of whether or not it is such a dogma, I'm going to set it aside and turn to a sister principle of causal closure that is methodological in nature and equally, if not more, popular with naturalists. What naturalists have in mind with this methodological principle of the causal closure of the physical world is something like the following: if there is anything about which we can be confident in the modern world, it is that science is the final court of appeal in all matters philosophical. Thus, anything that conflicts with the deliverances of science (e.g., substance dualism and libertarian free will) is unacceptable. But science has developed its authority by making use of certain assumptions, one of which is the methodological principle of causal closure. A comment by the naturalist Humphrey, whom I quoted earlier as recognizing the human inclination to believe substance dualism, helps to illustrate this point. He asserts that when it comes to explaining human behaviour, the scientific study of the brain will reveal *all* that there is to know. And his reason for saying this? 'My reason is simply the guiding principle, which underlies all science, that *nothing interesting occurs without a material cause*.'[6] I'll understand Humphrey's claim as a way of saying that science has a methodological commitment to exclude any mental explanation, involving a substantial soul or mind, of the occurrence of a physical event. Jaegwon Kim captures this point about methodological causal closure with the following example:

> You want to raise your arm, and your arm goes up. Presumably, nerve impulses reaching appropriate muscles in your arm made those muscles contract, and that's how the arm went up. And these nerve signals presumably originated in the activation of certain neurons in your brain. What caused those neurons to fire? We now have a quite detailed understanding of the process that leads to the firing of a neuron, in terms of complex electrochemical processes involving ions in the fluid inside and outside a neuron, differences in voltage across cell membranes, and so forth. All in all we seem to have a pretty good picture of the processes at this microlevel on the basis of the known laws of physics, chemistry, and biology. If the immaterial mind is going to cause a neuron to emit a signal (or prevent it from doing so), then it must somehow intervene in

[5] Ibid., pp. 42, 63.

[6] Humphrey, *Soul Dust*, p. 17. The emphasis is Humphrey's.

> these electrochemical processes. But how could that happen? At the very interface between the mental and the physical where direct and unmediated mind-body interaction takes place, the nonphysical mind must somehow influence the state of some molecules, perhaps by electrically charging them or nudging them this way or that way. Is this really conceivable? Surely the working neuroscientist does not believe that to have a complete understanding of these complex processes she needs to include in her account the workings of immaterial souls and how they influence the molecular processes involved. ... Even if the idea of a soul's influencing the motion of a molecule ... were coherent, the postulation of such a causal agent would seem neither necessary nor helpful in understanding why and how our limbs move. ... Most physicalists ... accept the causal closure of the physical not only as a fundamental metaphysical doctrine but as an indispensable methodological presupposition of the physical sciences. ... If the causal closure of the physical domain is to be respected, it seems prima facie that mental causation must be ruled out ...[7]

Kim says that the working neuroscientist does not need to make reference to the idea of a soul causally influencing molecular processes to have a complete understanding of what goes on physically when you raise your arm. I will examine this claim of his in a moment. Before doing so, I think it is helpful to ask why it is plausible to maintain that the causal closure of the physical world is an indispensable methodological presupposition of the physical sciences. Alvin Plantinga has asked this question in his examination of what he calls methodological naturalism, which is, for the purposes of my paper, equivalent to the methodological principle of causal closure.[8] Plantinga points out that our conception of science has been bequeathed to us by the Enlightenment, which itself sought to teach us to demarcate clearly between faith (which is private and subjective) and reason (which is public and objective). Science is that which supposedly embodies reason, most especially in the form of verifiable and shareable facts that are equally available to anyone, whatever a person's metaphysical convictions. But Plantinga recognizes that pointing out the genealogical line of modern science does little to help us understand why a scientist must, in order to do science, be bound by the methodological principle of the causal closure of the physical

[7] Jaegwon Kim, *Philosophy of Mind* (Boulder, CO: Westview, 1996), pp. 131-132; 147-148.

[8] Alvin Plantinga, 'Methodological Naturalism?', *Perspectives on Science and Christian Faith*, 49 (1997), 143-154.

world. In his effort to find an answer to this question, Plantinga goes on to quote the suggestion of the naturalist Michael Ruse that a scientist's commitment to the methodological principle of the causal closure of the physical world is tied to the idea that science deals with what is natural, repeatable, and governed by law. But, says Plantinga, Ruse's suggestion cannot be right because presumably the Big Bang is something with which science is concerned, yet it is unique and unrepeatable. Moreover, says Plantinga, the idea of a causal law has its own chequered history, with philosophers of science like Bas van Fraassen maintaining that there are no natural laws. Plantinga points out that there are no doubt regularities among events in the physical world, but regularities are not necessarily laws, and trying to explain the difference between nomic and nonnomic regularities has proven to be messy business.

After some further discussion, Plantinga gets around to considering what he calls Duhemian science (named after the Roman Catholic scientist Pierre Duhem), which is the idea that science should not be dependent upon metaphysical commitments. Because metaphysical commitments are plentiful in number and tenaciously held, Duhem believes that if science were dependent upon them, disagreements would run riot. Duhem's point, according to Plantinga, is that all who embrace science need to embrace the methodological principle of causal closure so that riots are avoided and science can be a cooperative venture.

Duhemian science, then, seeks to be maximally inclusive, and Plantinga seems willing to concede the workability of a Duhemian view of science when it comes to the hard sciences like physics, chemistry, biology, and neuroscience (he is not so sanguine about the Duhemian view for a human science like psychology, but given an inclusion of purposeful explanations in psychology, it is not clear that psychology is a science). Plantinga, however, is not done with his investigative work about the basis for accepting the methodological principle of the causal closure of the physical world, and he raises one last issue that he seems to think gets at the heart of the matter. This final issue is the idea of something's being, in his words, a 'science stopper'. Speaking as a theist, Plantinga writes:

> One of the things we want to do as [God's] creatures is to understand the world he has made, see (to the extent that we can) how it is made, what its structure is, and how it works. ... This is what goes on in natural science. The object of this science is nature ... But there will be little advance along

> this front if, in answer to the question, Why does so and so work the way it does? or What is the explanation of so and so? we regularly and often reply 'Because God did it that way' ... Ascribing something to the direct action of God tends to cut off further inquiry.[9]

The point Plantinga is making on behalf of the methodological principle of causal closure can plausibly be expanded into something like the following: One reason for requiring a commitment to the methodological principle of causal closure is the notion of scientific progress. After all, if science were at some point to reach a dead end in the attempt to discover a physical cause of a physical effect and did not in principle assume causal closure, then after some time of frustration it would be tempting to step outside the physical order and appeal to a non-physical, mental explanation (Plantinga thinks of such an explanation in the form of God; I, along with Kim, Humphrey, and the others I have quoted, am thinking of it in terms of the soul). But that would for all intents and purposes undercut any further reason for continuing to search for a physical cause. One can only imagine how many fewer scientific discoveries would have been made had the methodological principle of the causal closure of the physical world been rejected.

III.

Plantinga's response to the above justification for methodologically assuming in principle that the physical world is causally closed is to say that the fact that appeals to God are science stoppers means that, as a general rule, they will not be helpful. However, it does not mean that they are never true.[10] But if such appeals are science stoppers and also sometimes true, how are we to sort out when it is, and when it is not, reasonable to believe that there must be a stop to science and an appeal made to God? And what about the methodological principle of the causal closure of the physical world? The answers to these questions are by no means easy to come by. But I think we can make some, even if it is a little, headway in answering them by initially thinking of what is excluded as an explanation of a physical event by the methodological principle of causal closure in terms of a human soul, instead of God. This is the case, for three reasons.

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[9] Ibid., p. 152.
[10] Ibid.

First, as Humphrey writes, 'Long before religion could begin to get a foothold in human culture, human beings must already have been living in soul land. ... Religion is parasitic on spirituality (and not, as some religionists would have it [and here one is tempted to think of Plantinga], the other way round.'[11] Second, it is not implausible to think of God as akin to a divine soul, and if the problem of methodological causal closure cannot be met vis-à-vis the human soul, there is good reason it cannot be met with respect to God. And third, because Kim has nicely posed the problem of methodological causal closure in terms of the soul, we have at hand a clear formulation of the problem with which to work.

So, what might be said in response to the argument against substance dualism and for naturalism that puts front and centre the methodological principle of the causal closure of the physical world? Well, there is no need for the advocate of this methodological principle to assume that there are no souls. That would unnecessarily invoke metaphysics in a way that Duhem believes would poison the scientific enterprise. So, let us have the naturalist advocate of the methodological principle of causal closure concede, for the sake of argument, at least the existence of immaterial minds or souls. What this naturalist advocate is intent on maintaining is that even if souls exist, the pursuit of science requires the principled assumption that the world is causally closed to intervention by them. This is the thrust of Kim's point. This concessionary but equally principled position seems to be advocated by the geneticist and evolutionary biologist J. B. S. Haldane. He says: 'My practice as a scientist is atheistic. That is to say, when I set up an experiment I assume that no god, angel or devil is going to interfere with its course ... I should therefore be intellectually dishonest if I were not also atheistic in the affairs of the world.'[12] With a little argumentative license, it is fair to understand Haldane as claiming not only that his practice as a scientist is atheistic insofar as he methodologically assumes the physical world is causally closed to divine intervention but also that it is more broadly physicalistic insofar as it includes the assumption that no human soul is going to interfere with the course of the physical world that he is studying. Likewise, it is fair to assume that Haldane believes he would be intellectually dishonest were he not also a physicalist with

[11] Humphrey, *Soul Dust*, p. 205.

[12] J. B. S. Haldane, *Fact and Faith* (London: London, Watts & Co., 1934); quoted in L. M. Krauss, 'God and Science Don't Mix', *The Wall Street Journal*, June 26, 2009.

regard to the living of his life outside the science lab (what he calls 'the affairs of the world').

The question I want to consider now is whether it follows from the fact that a scientist must methodologically assume the causal closure of the physical world with respect to souls when he is doing his science that he must also methodologically assume, lest he be intellectually dishonest, the causal closure of the physical world with respect to souls when he pursues the affairs of everyday life. By the end of this paper, I hope to make clear that there is neither intellectual dishonesty nor inconsistency in affirming methodological causal closure of the physical world in the science lab while denying it outside that context in the affairs of everyday life.

To begin constructing a response to Haldane, I need briefly to sketch a picture of how we ordinarily view ourselves in daily life and an implication of this view for our relationship to our physical bodies as we conduct the everyday affairs of life. My sketch begins with the idea that people are or have souls and on occasion make undetermined choices (from here on, I will assume that choices are essentially undetermined events), where this implies that those souls, via their choices, causally influence the courses of events in their physical bodies. The making of choices on these occasions implies that people at that time have reasons for performing incompatible actions. It is because they cannot perform both actions that they must make a choice to do one or the other (or neither), and whichever choice they make, they make that choice for a reason or purpose, where that reason provides an ultimate and irreducible teleological explanation of that choice. The making of a choice is a mental event that occurs in a soul and either it, or some other mental event associated with it (e.g., an intention to act) must directly causally produce an effect event in that soul's physical body. So our view of ourselves as engaging in the affairs of ordinary life implies that there is mental-to-physical causation and its occurrence is ultimately and irreducibly explained teleologically by the reason that explains the making of a choice.

To put some flesh on the proverbial bones, consider the movements of my fingers right now on the keys of my keyboard as I work on this paper. If these movements occur because of a choice of mine to type, then these physical movements are ultimately and irreducibly explained teleologically in terms of the purpose for making my choice to write this paper, which, we can suppose, is that I make clear that there is no good objection from the methodological assumption of the causal closure

of the physical world to the view that human beings are soul-body compounds and that those souls make choices that causally produce (directly or indirectly) effect events in their physical bodies. Hence, if the movements of my fingers are ultimately occurring because I made a choice to write this essay for a purpose, then a mental event involving me (a soul) must be *causing* those movements to occur as I write this essay for the just-stated purpose. In other words, if our commonsense view of a human being is correct, I, as a soul, cause events to occur in the physical world by making a choice to write this essay for a purpose.

Two intermediate points are appropriate here. First, from the example of my typing, it is important to make clear that the claim that there is causal interaction between a soul and its physical body is *not* a 'God-of-the-gaps' type of argument. In discussions about God's existence, critics often argue that theists postulate God's existence in light of an inability of science to provide a complete explanation for a physical datum (or data). This lack of a complete explanation is a gap in the scientific story. By analogy, a critic might argue that I am postulating my soul's existence in light of an inability of science to provide a complete explanation for the movements of my fingers when I type this essay. But this argument would be mistaken. My claim is *not* that there are certain physical events (the movements of my fingers) for which a failure to find a complete physical causal story warrants appeal to the causal activity of a soul as their ultimate explanation. Rather, the claim is that our commonsense understanding of our purposeful activity entails that some physical events must occur whose ultimate causal explanation is not other physical events but non-physical mental events whose occurrences are explained teleologically by purposes.

Second, the choice made for a purpose that directly or indirectly causally produces a physical effect event is, in Plantinga's terms, a science stopper. On an occasion when such a choice is made, there will have to be an initial physical event for which there is no sufficient physical cause. And we know that this must be the case, given that we make choices for purposes. And when I say that 'we' know this must be the case, I am assuming that scientists, too, know this. What then about the matter of intellectual dishonesty and inconsistency on the part of a scientist. What can be said in response to Haldane?

Consider once again Kim's neuroscientist, and let us distinguish between a neuroscientist as an *ordinary human being* and a neuroscientist as a *physical scientist*. Surely a neuroscientist as an ordinary human

being who is trying to understand how and why my fingers move while I am typing must and would refer to me and my reasons (purposes) for acting in a complete account of why my fingers move. Must she, however, as a physical scientist, avoid making such a reference? Kim claims that she must avoid such a reference because as a physical scientist she must make a methodological assumption about the causal closure of the physical world. Is Kim right about this and, if he is, is such a commitment compatible with a commitment on the part of a physical scientist as an ordinary human being to the causal openness of the physical world? Or must a neuroscientist, who as a physical scientist assumes methodological causal closure, also assume, if she is not to be dishonest and/or inconsistent, that as an ordinary human being her mention of purposeful explanations of choices is, say, nothing more than an explanatory heuristic device that is necessary because of an epistemic gap in her knowledge concerning the physical causes of human behaviour?

In order to answer these questions, it is necessary to consider what it is about physical entities that a physical scientist such as a neuroscientist is often trying to discover in her experimental work. What is, dare we ask, the *purpose* of a neuroscientist's inquiry? In the case of Kim's neuroscientist, it is eminently plausible to think, as one of Plantinga's earlier comments suggests, that what she is trying to discover as a physical scientist is how the physical world works, and this involves learning about the *capacities* of particles or micro-physical entities such as neurons and how they are causally affected by exercised causal *powers* of other physical entities, including other neurons.

Here, it is helpful to consider the pioneering work on the brain of Wilder Penfield, as he describes it in his book *The Mystery of the Mind*.[13] Penfield recounts how he produced movements in the limbs of patients by stimulating the cortical motor areas of their brains with an electrode. As Penfield observed the neural impulses that resulted from stimulation by the electrode, he did what Haldane advocates and methodologically assumed *during his experiments* that the areas of the brains of his patients on whom he was doing his scientific work were causally closed to other causal influences. Without this methodological assumption of causal closure, he could not conclude both that it was the electrode, as opposed,

[13] Wilder Penfield, *The Mystery of the Mind* (Princeton: Princeton University Press), 1975.

say, to something 'behind the scene' such as an empirically undetectable human soul, that causally affected the capacities of the neurons to conduct electrical impulses, and that it was the causal impulses of those neurons that causally affected the same capacities of other neurons further down the causal chains to produce the movements of the limbs. There is no reason, however, to think, contrary to what Haldane maintains, that because Penfield's investigation of the brain required the methodological assumption of causal closure of the areas of the brains he was studying during his experiments that he also had to be committed as a physical scientist to the assumption that the physical world is *universally* (in *every* context) causally closed, where universal causal closure entails that the relevant brain (neural) events can *only* be causally produced by events of other physical entities and not instead by mental events of immaterial souls alone when they indeterministically choose and intend (plan) to act for purposes. That is, there is no reason to think that because a neuroscientist like Penfield must assume causal closure of a delimited area of the brain in the context of his experimental work in order to discover how physical entities causally interact with each other that he must also be committed as a scientist to the universal explanatory exclusion of mental events of souls that on certain occasions cause the occurrence of events in the physical world. All that the neuroscientist as a physical scientist must assume is that during his experiments souls (either the patients themselves or others) are not directly causally producing the relevant events in the micro-physical entities in the areas of the brain that he is studying. If the neuroscientist makes the universal assumption that in *any* context events in micro-physical entities can only have other physical events as causes and can never be causally explained by mental events of souls and their purposes, then he does so not as a scientist but as a *naturalist*, where, as I indicated at the outset of this paper, a naturalist is a person who believes that the occurrence of physical events can *only* be explained in terms of the occurrence of other physical events and without any reference to ultimate and irreducible purposes.

It is relevant to note in this context that Penfield himself was not a naturalist. Rather, he was a soul-body dualist.[14] One can surmise, then, that were Penfield to have been presented by Kim or Haldane with the methodological argument from causal closure, he would have found it wanting. And for good reason. In seeking to understand how events

[14] Ibid., pp. 76, 80.

of different physical entities affect the capacities of micro-entities such as neurons, a neuroscientist such as Penfield is seeking to learn about properties of physical entities that are essentially *conditional* or *iffy* in nature. A property that is conditional in nature is a property that is specified in terms such as 'If such-and-such is done to object O (e.g., a cause C is exerted on O), then so-and-so will occur to O (e.g., O will move at rate R)'. As the Nobel physicist Richard Feynman says, scientific questions are 'questions that you can put this way: "if I do this, what will happen?" ... And so the question "If I do it what will happen?" is a typically scientific question'.[15] The following description by David Chalmers of the basic particles that are studied by physicists nicely captures their iffy nature:

> Basic particles ... are largely characterized in terms of their propensity to interact with other particles. Their mass and charge is specified, to be sure, but all that a specification of mass ultimately comes to is a propensity to be accelerated in certain ways [moved at certain rates] by forces, and so on. ... Reference to the proton is fixed as the thing that causes interactions of a certain kind that combines in certain ways with other entities, and so on ...[16]

What Chalmers describes as a 'propensity' of a particle to be accelerated is a capacity of it to be moved which is such that *if* it is actualized (triggered) by an exercised causal power of another entity (whether physical or non-physical in nature), the particle will be necessitated to behave in a certain way. There is nothing, however, in the nature of the propensity or capacity of that particle that entails that it can only be actualized by the exercised power of a physical entity. That is, there is nothing in the nature of that propensity or capacity that entails that it cannot be actualized by souls making undetermined choices for reasons. (If there were something about the ontological nature of a capacity of a physical object that it could only be actualized by physical causal events, then Haldane would not need to assume that no god, angel or devil is going to interfere with the course of his experiment. Such an assumption would be superfluous.) Hence, the actualization of a micro-particle's capacity to behave in a certain way by a person on an occasion

[15] Richard Feynman, *The Meaning of It All* (Reading, MA: Perseus Books, 1998), pp. 16, 45.

[16] David Chalmers, *The Conscious Mind: In Search of a Fundamental Theory* (New York: Oxford University Press, 1996), p. 153.

when the latter makes a choice for a reason is not excluded by anything that is discovered in a scientific study of that capacity. And it is precisely on occasions like those noted by Kim, when finger and arm movements occur seemingly for purposes, that a neuroscientist will reasonably believe that the originative micro-physical movements are produced by the causal activity of a soul that is choosing to act for a purpose. If a neuroscientist makes the presupposition that micro-physical entities can have their capacities actualized *only* by other physical entities and never by choices made by souls for purposes, then he does so as a naturalist and not as a scientist.

My response to the causal closure argument assumes Feynman's and Chalmers' iffy picture of micro-entities that, in addition to being iffy, is also deterministic in the sense that no effect will occur in any micro-entity unless some causal event determines or necessitates that effect to take place. Might there not, however, be random (non-deterministic) changes in the system of micro-entities as well as the deterministic ones? In other words, while sometimes a neuron fires because it gets deterministic causal input from the neurons with which it is connected, at other times it fires at random (without any deterministic cause), perhaps as a result of random quantum fluctuations in a chaotic system that are magnified at the neuronal level.

If we assume for the sake of discussion that neurons do sometimes fire randomly, is it possible to distinguish sharply between those firings that occur randomly and those that occur as the result of being causally determined by a mental event of a soul? After all, the two kinds of firings are alike to the extent that neither has a physically deterministic cause. I believe that it is possible to make this sharp distinction between the two kinds of firings. The way to make the distinction is in terms of contexts that are known, in the case of ourselves, through first-person experience and, in the case of others, through third-person observation. All one need do is ask how plausible it is to maintain that every time a person purposefully chooses to do something such as move his fingers to type, an initial neuron just happens to fire at random (as a result of quantum fluctuations, etc.) with the result that finger movements occur that perfectly mesh with or map onto those that are intended by that person. Because such repeated coincidences would literally be, dare I say, miraculous, the only plausible view is that the neuron must not be firing randomly but because of the causal input from a soul choosing to act for a purpose.

IV.

I conclude that a commitment to science and a belief in the soul's explanatory relevance on occasion to the course of events in the physical world are compatible. At least, the methodological principle of the causal closure of the physical world poses no problem for such a commitment and belief. And this is good news for those who think that a belief in the existence of the soul and its purposeful activity is not illusory.[17]

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[17] Acknowledgment: This paper was originally presented in Munich, at a conference for the Analytic Theology Project, generously funded by the John Templeton Foundation.

THE ARGUMENT FROM CONSCIOUSNESS AND DIVINE CONSCIOUSNESS

THOMAS SCHÄRTL

Augsburg University

Abstract. The paper aims for an improvement of the so-called argument from consciousness while focusing on the first-person-perspective as a unique feature of consciousness that opens the floor for a theistic explanation. As a side effect of knowledge arguments, which are necessary to keep a posterior materialism off bounds, the paper proposes an interpretation of divine knowledge as knowledge of things rather than knowledge of facts.

I. SETTING THE STAGE

Some philosophers who have dealt with the argument from consciousness have called it a God of the gaps argument.[1] Indeed, there is little doubt about the fact that the argument from consciousness (AfC) is a version of an argument from design. Its aim is, among others, to offer a contrast to non-theistic naturalism as it has been presented by Dennett and others.

James P. Moreland has re-furnished AfC along the following lines (earlier versions of it have been crafted by Robert Adams and Richard Swinburne):[2]

'(1) Genuinely nonphysical mental states exist.
(2) There is an explanation for the existence of mental states.
(3) Personal explanation is different from natural scientific explanation.
(4) The explanation for the existence of mental states is either a personal or natural scientific explanation.

[1] See for example Daniel Lim, 'Zombies, Ephiphenomenalism, and Personal Explanations: A Tension in Moreland's Argument from Consciousness', EJPR, 3 (2011), 439-450; see also J.P. Moreland, 'God and the Argument from Consciousness: A Response to Lim', EJPR, 4 (2012), 243-251.

[2] See Robert Adams, *The Virtue of Faith and Other Essays in Philosophical Theology* (Oxford: Oxford University Press, 1987); Richard Swinburne, *The Existence of God*, 2nd edition (Oxford: Oxford University Press, 2004).

(5) The explanation is not a natural scientific one.
(6) Therefore, the explanation is a personal one.
(7) If the explanation is personal, then it is theistic.
(8) Therefore the explanation is theistic.'[3]

Most of Moreland's premises are subject to a number of objections. It is not within the scope of this paper to list all of them or to discuss each of them in detail. But it is, nevertheless, necessary to point to the most serious of them. One of those objections is the rebuttal of the very first premise: Physicalists of any denomination would argue that this proposition is wrong. And defenders of AfC would have to show that there are, indeed, genuinely nonphysical states or facts while mentioning, for example, the existence of phenomenal or 'qualia-entrenched' consciousness for a start. Of course, if this is the only cornerstone of the argument it will remain open for endless discussions, as we know their parallels from the philosophy of mind. And, as Timothy O'Connor and Kevin Kimble have underlined recently,[4] AfC is in danger of seriously collapsing if one could come up with a purely naturalistic explanation of phenomenal consciousness. As a matter of fact, AfC's effort seems to depend on the argument's premise 1, which is plausible only if everybody will concede an explanatory gap between materialism on the one hand and the existence of genuinely nonphysical mental states on the other – a gap that offers enough space for theistic explanations. But if there are no genuinely mental states, the whole business of a non-natural explanation becomes rather useless.

This raises the more general question whether or not theism should put all its eggs in the basket of a non-physicalistic philosophy of mind (the latter phrase may be used to allow for a variety of models beyond the fence of eliminativism) and whether or not even a sophisticated God-of-the-gaps argument is bound to fail eventually. My sub-thesis in this paper will be that anyone who wants to come up with a more convincing version of AfC needs to move from phenomenal consciousness to 'higher' constituents or, let us call them, 'performances' of consciousness:

[3] James Porter Moreland, 'The Argument from Consciousness', in *The Rationality of Theism*, ed. by Paul Copan and Paul K. Moser (London – New York: Routledge, 2003), pp. 204-220 (esp. p. 206). See also James Porter Moreland, *Consciousness and the Existence of God: A Theistic Argument* (New York – London: Routledge, 2008), p. 37.

[4] Cf. Kevin Kimble and Timothy O' Connor, 'The Argument from Consciousness Revisited', in *Oxford Studies in the Philosophy of Religion, Vol. 3*, ed. by Jonathan Kvanvig (Oxford: Oxford University Press, 2011), pp. 110-141 (esp. 111-117).

we should think of the experience of moral values or properties or the ontological implications of the first person perspective. However, this sub-thesis will be presented as some sort of conditional only: If there is something about consciousness which has the property *X* then AfC might get off the ground. Still, up to today I don't really know whether or not there is enough evidence for *X* and whether or not the two instances I will refer to deliver sufficient evidence. But even if we look at possible flaws right from the start, there is already some consolation available: In case the mentioned improvement of AfC might not work at all, any defender of AfC still has some options left. O'Connor and Kimble, for example, have introduced a prominent one: Even within a materialistic framework consciousness as a (nevertheless contingent and surprising phenomenon) could be taken as a hint towards a refreshed fine-tuning-argument for the existence of God.[5] Maybe this is all we can get. But we would also have to admit: In getting this, AfC will lose its assumedly privileged position and its fascinating quality.

However, in addition to my sub-thesis my main thesis will be that AfC's starting point – phenomenal knowledge and the puzzles of consciousness – can be helpful to say something more substantial about divine consciousness, at least by some sort of detour. The main inspiration is drawn from Yujin Nagasawa's book[6] on knowledge arguments, which basically shows that the *structures* of knowledge arguments, as used in the philosophy of mind by Frank Jackson or Thomas Nagel, can be used to undermine the notion of divine omniscience if implemented within the philosophy of religion. My point will be that Michel Tye's recently endorsed strategy to deal with what is called 'phenomenal consciousness'[7] in circumventing the highly problematic notion of 'phenomenal concepts' by introducing the difference between knowledge of things and knowledge of facts can offer an interesting way out of what we might call *Nagasawa's trap*. While Tye, as I mentioned before, uses the difference between knowledge of things and knowledge of facts, a distinction he claims to have borrowed from Bertrand Russell,[8] I am going to draw

[5] See Kimble – O'Connor, 'The Argument from Consciousness', pp. 137-138.

[6] Cf. Yujin Nagasawa, *God and Phenomenal Consciousness: A Novel Approach to Knowledge Arguments* (Cambridge: Cambridge University Press, 2008), pp. 3-14.

[7] Michael Tye, *Consciousness Revisited: Materialism Without Phenomenal Concepts* (London – Cambridge: MIT Press, 2009).

[8] Bertrand Russell, *The Problems of Philosophy* (New York: Dover Publications, 1999), pp. 31-40. It is important to note that Russell himself talks about knowledge

a distinction between knowledge of essences and knowledge of propositions while trying to get a helping hand from Thomas Aquinas[9] and, most of all, from John Duns Scotus.[10]

But let's return to the outlines of AfC. The main objection points to the fact that AfC has some serious problems to get off the ground. Choosing the premises to start from is one of its key problems because these premises have to prepare for the conclusion that theism offers a better explanation to consciousness than naturalism does. Let us take a look at two key propositions that may be used as starting premises for AfC:

(1) If consciousness has a certain property or feature *X*, naturalistic explanation is not sufficient.

(2) Either theistic or naturalistic explanation is sufficient.

Once we transform (2) into

(2*) If a naturalistic explanation isn't sufficient, then only a theistic explanation suffices

we will arrive at:

(3) If consciousness has a certain property or feature *X*, then only a theistic explanation suffices.

Recent discussions of AfC have pointed directly to the core problems that are necessarily associated with premises (1) and (2): Is there something genuine about consciousness, which would exceed the framework of naturalism? And what exactly would it mean to say that a naturalistic explanation is not sufficient?

II. PHENOMENAL CONTENT

Timothy O'Connor and Kevin Kimble have shown that the best candidate for the idea premise (1) is hinting at might be the phenomenal content of experience.[11] Indeed, at first sight, the gold-coloured view of the Alps during sunset as a phenomenal quality seems to be significantly different from the functional physical processes that occur in my brain while I am watching the Bavarian mountainside or that occur as the physical and functional substratum of the causal relations between the object

by acquaintance and knowledge by description.

[9] See Eleonore Stump, *Aquinas* (London – New York: Routledge, 2003), pp. 159-187.

[10] See Richard Cross, *Duns Scotus on God* (Aldershot: Ashgate, 2005), pp. 59-85.

[11] Cf. Kimble – O' Connor, 'The Argument from Consciousness', pp. 111-112.

in question and my cognitive apparatus on the other side. The various problems of phenomenal content have been prominently addressed by Frank Jackson's *Mary's room parable*,[12] which has enriched the discussion of qualitative content ever since. But, in the meantime, certain types of materialism tried to convince us that Jackson's Mary doesn't need to be taken as a rebuttal of physicalism.[13] These approaches would agree that the apparent differences between phenomenal content on the one hand and physical functions or properties on the other might justify the impression that there is an epistemological gap. However, they would add that this very gap occurs only from an a priori perspective for which, along the lines of highly questionable *conceivability* arguments, a possible world is conceivable which reveals the very same physical features as our world but has no display of phenomenal states whatsoever. In contrast, a posteriori materialism would emphasize that a priori considerations remain rather irrelevant when it comes to the *scientific* explanation of consciousness. David Chalmers describes the basic intuition and the main strategy of a posteriori materialism as follows:

> In particular, this view locates the gap in the relationship between our concepts of physical processes and our concepts of consciousness, rather than in the relationship between physical processes and consciousness themselves. [...] Proponents of this strategy argue that phenomenal concepts – our concepts of conscious states – have a certain special nature. Proponents suggest that given this special nature, it is predictable that we will find an explanatory gap between physical processes conceived under phenomenal concepts. At the same time, they argue that our possession of concepts with this special nature can itself be explained in physical terms.[14]

The key to get away from a priori dualism is the notion of phenomenal concepts. But what exactly are phenomenal concepts? Some philosophers, like Christopher Hill[15] and Brian McLaughlin,[16] have argued

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[12] Cf. Frank Jackson, '*Epiphenomenal Qualia*', *Philosophical Quarterly*, 32 (1982), 127-136.

[13] Cf. David Chalmers, *The Character of Consciousness* (Oxford: Oxford University Press, 2010), pp. 111-124.

[14] Chalmers, *Consciousness*, p. 305.

[15] Christopher S. Hill, *Sensations: A Defense of Type-Materialism* (New York: Cambridge University Press, 1991).

[16] Cf. Brian McLaughlin, 'Color, Consciousness, and Color Consciousness', in *Consciousness: New Philosophical Perspectives*, edited by Quentin Smith and Aleksander Jokic (Oxford: Oxford University Press, 2003), pp. 97-156.

that phenomenal and physical concepts play different conceptual roles; but these roles do not correspond to different ontological layers of reality. Others, like Brian Loar,[17] Michael Tye,[18] or Janet Levin,[19] regard phenomenal concepts as recognitional concepts whose basic aim is to help us immediately recognize things without the need of referring to background knowledge or any other theoretical knowledge. A third view has interpreted phenomenal concepts in analogy to indexicals (John Perry,[20] John O'Dea[21]) comparing the prima facie epistemic gap between the mental and the physical with those gaps we encounter once we start describing a language that makes use of indexicals as opposed to a language which lacks indexical expressions. A fourth view (associated with Ned Block[22] or David Papineau[23]) tried to treat phenomenal concepts as some sort of quotational concepts where the phenomenal state plays the role of being a mode of representation for either a neuronal state of the brain or the physical properties of a given object of experience.[24] Thus, defenders of AfC would have to show, according to Kimble and O'Connor, that these materialist strategies aren't successful eventually. Or, to put it in Frank Jackson's parable, proponents of AfC would have to demonstrate that Mary, after having left her black-and-white environment, doesn't just learn how to make use of recognitional concepts, or a special kind of indexicals, or how to be put into a reference situation that allows the use of indirect quotational modes; instead, they need to come up with good reasons to say that Mary acquires additional knowledge and refers to a new set of facts.[25]

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[17] Cf. Brian Loar, 'Phenomenal States', *Philosophical Perspectives*, 4 (1990), 81-108.

[18] Michael Tye, *Ten Problems of Consciousness: A Representational Theory of the Phenomenal Mind* (Cambridge: MIT Press, 1995).

[19] Cf. Janet Levin, 'What is a Phenomenal Concept', in *Phenomenal Concepts and Phenomenal Knowledge: New Essays on Consciousness and Physicalism*, ed. by T. Alter and S. Walter (Oxford – New York: Oxford University Press, 2007), pp. 87-110.

[20] Cf. John Perry, *Knowledge, Possibility and Consciousness* (Cambridge: MIT Press, 2001).

[21] See John O'Dea, 'The Indexical Nature of Sensory Concepts', in *Philosophical Papers*, 31 (2002), 169-181.

[22] Cf. Ned Block, 'Consciousness, Accessibility, and the Mesh between Psychology and Neuroscience', in *Behavioral and Brain Sciences*, 30 (2007), 481-548.

[23] Cf. David Papineau, *Thinking about Consciousness* (Oxford: Oxford University Press, 2002).

[24] Cf. Chalmers, *Consciousness*, pp. 309-311; see also Kimble – O'Connor, 'The Argument from Consciousness', pp. 113-117.

[25] Cf. Moreland, *Consciousness*, pp. 42-43.

A number of aspects could strengthen the idea that the above-mentioned treatment of phenomenal concepts doesn't do justice to their intrinsic features we usually describe when we use phenomenological methods. For instance, it is hard to explain the special status of phenomenal concepts in terms of recognitional concepts since pretty much any concept has the capacity to serve as a recognitional concept. Take the concept of *chair*, for example. In a Van Inwagen world this concept's extension would not be the entity we usually associate with the word 'chair' but an arbitrary sum of material simples. The notion of chair would not be obsolete, however, but it would serve as a recognitional concept only. And in such a world the same would be true for almost any everyday concept being related to everyday wholes. Although everyday concepts for mesocosmic wholes would have the same status as phenomenal concepts, obvious differences remain between these kinds of concepts, since the concept of chair, table, computer and the like still worked as *physical* or *functional* concepts even if they did this job as some sort of conceptual abbreviation in a Van Inwagen world; phenomenal concepts, attached for example to colour-expressions or feelings, seem to belong to another kind. Additionally there is a significant difference between phenomenal concepts and indexicals since the latter's meaning depends crucially and exclusively on the context and, therefore, on the person that is using these expressions. In contrast, Brian Loar's reference to type demonstratives looks pretty much like an illegitimate hybrid conceived of concepts and indexicals.

Imagine, for example, that I have visited the German Parliament together with my wife; both of us have admired the chairs and their colour (which is Reichstags-blue). Both of us have had a phenomenal experience of Reichstags-blue (which is a special colour developed exclusively for the furniture of the German Parliament). While anyone would have to clarify his or her sentences when using indexical expressions while the primary context of their application has changed, I wouldn't have to do this when I am talking to my wife about Reichstags-blue – and not just because we were exposed to the same indexical-solidifying context, but because we had the very same colour-experience. Thus, for both of us there would be no need to replace the colour expressions in the sentence 'Reichstags-blue is brighter than royal blue' with expressions like 'Colour 56 on the *X* spectrum is more *F* than Colour 45 on the *X* spectrum' (with *X* and *F* being functional expressions built upon wave length, reflection and the like). But, of course this doesn't show that the

concept of Reichstags-blue isn't just a mode of representation, while the underlying fact – the dry and sober fact so to speak – is nothing else but colour 56 on the *X* spectrum. Something more needs to be said here.

Coming from this perspective the strategy Kimble and O'Connor are proposing has some additional merit because they point at a certain tension invoked by phenomenal concept defenders who say that:

(a) a subject of experience has *immediate access* to the phenomenal content of a phenomenal property (displayed by a phenomenal experience),

(b) this phenomenal property *is* actually a physical-functional property,

(c) the very same subject of experience doesn't have immediate access to the property in question as a physical-functional property.[26]

Of course, it is not valid to derive 'person *a* is aware of *x* being Non-*F*' from '*a*'s being not aware of *x* being *F*'. Rather, the tension arises from the fact that the property in question has, so to speak, *hidden* features – those aspects of its nature that aren't transparent to consciousness, although transparency is the significant feature of phenomenal properties.[27] And, to say the least, properties like those (that are said to have simultaneously open and hidden features) are really puzzling. However, as Kimble and O'Connor admit, the puzzle in question presupposes that a so-called *doctrine of revelation* is sound which says that the intrinsic nature of phenomenal properties is revealed to us (in its entirety) while we experience this very same property.[28] Unsurprisingly, the doctrine of revelation has been attacked by a posteriori materialists. But even if we agreed to doubt its overall validity with regard to phenomenal concepts, this doctrine is hard to put aside, since transparency is the key signature of phenomenal properties and phenomenal awareness: It isn't easy to believe that the aching pain I feel has certain features that are hidden from immediate awareness since being brought to immediate attention is the core ingredient that makes pain a phenomenal concept. But again, even if nobody may be puzzled by the notion of hidden aspects there still remains, according to Kimble and O'Connor, a difference in content between the transparent aspects of a phenomenal property and its assumedly hidden physical-functional nature.

[26] Cf. Kimble – O'Connor, 'Argument from Consciousness', pp. 118-119.

[27] Cf. Kimble – O'Connor, 'Argument from Consciousness', p. 120.

[28] Cf. Kimble – O'Connor, 'Argument from Consciousness', p. 121.

To benefit from that difference, we have to add a *principle of genuine content* to the picture: Let us use the above-mentioned case of Reichstags-blue again. Using Hector-Neri Castanedas vocabulary we can simply state that the Reichstags-blue-*guise* is very different from the colour-56-on-the-*X* spectrum-*guise* given that guises are the objective content of awareness and consciousness. Within my belief-system and, of course, behaviourally I will respond differently to both guises since they are related to different language games producing different meanings for the phrases in question. But what kind of deeper differences are on the very bottom of my different responses to those guises? Kimble and O'Connor are focusing on one key feature (but perhaps there are more): While phenomenal concepts are simple, physical-functional concepts are structured.[29] Therefore, it is hard to believe that guises, which differ significantly with respect to their genuine content, should constitute one and the same property. At this point property dualism (at least one version of property dualism) seems to be a more or less reasonable metaphysical response to a semantic and epistemological question.

III. AFC MODIFIED

But what would this result do for AfC? Unfortunately, not very much at this point. For premises (2*) and (3) require certain features of consciousness that *exceed* natural explanation. But this time it is the term 'natural explanation' which might undermine AfC. Because, as Kimble and O'Connor have shown persuasively, as long as we have the perspective to come up with fine-grained natural laws which allow us to map phenomenal properties to physical-functional properties we won't need a theistic explanation.[30] And isn't it this hunger that feeds any version of AfC? However, if there remains no hunger, the only way theism could make use of property dualism would be by some sort of fine-tuning argument which basically says that a universe equipped with laws of nature that allow consciousness to arise is quite improbable if we don't take into account the possible intention of a divine creator.[31] If this is the sparse result, AfC as a special kind of argument is gone; consciousness is boiled down to an interesting piece of evidence,

[29] Cf. Kimble – O'Connor, 'Argument from Consciousness', pp. 126-133.
[30] See also Oppy, 'Moreland's Argument', pp. 200-204.
[31] Cf. Kimble – O'Connor, 'Argument from Consciousness', pp. 133-140.

which, among others, reveals assumedly astonishing qualities of the universe we inhabit. May the theistic philosopher take it from here. Now, to avoid that AfC changes into some subcase of fine-tuning argument three strategies could offer possible solutions, which could help strengthening AfC in its very own right.

Strategy 1) could try to propose the idea that lawlike mapping of phenomenal properties to physical-functional properties cannot count as sufficient explanation since it circumvents an answer to the question why the universe is equipped with laws that call for a mapping of the different types of properties. A comparable strategy seems to consume most parts of Moreland's endeavour of strengthening AfC. To expose this strategy also helps us to understand the beef he has with John Searle's[32] or Timothy O'Connor's[33] philosophy of mind. While the former represents an enriched version of naturalism, the later has endorsed and developed a subtle theory of emergence. Both of them offer natural explanations to the occurrence of consciousness (and its features) tout court. Moreland, however, would insist that anything less but dualism and any explanation of the occurrence of consciousness, which is not aiming at dualism, must remain unsatisfying.[34] But it is very hard to find further evidence in Moreland's writings that would support a reasonable move from property dualism to substance dualism and which would, therefore, justify to move softly from natural explanations to theistic ones. Moreland's sympathies for dualism[35] might be more plausible if we had access to a world or a situation in which, alluding to a phrase coming from Daniel Dennett, some kind of *ectoplasmic spiritual stuff* that doesn't have ties to physical entities or properties could be encountered. In other words, if we could really compete against a posteriori materialism based on what we might call *a posteriori dualism* (based on the experience of spiritual stuff), the idea of lawlike mapping sets of properties to other sets of properties wouldn't do the job of explanation because we would be confronted with the fact that the realities behind those sets could go different, even separate ways. Yet, as long as worlds or situations, in which ectoplasmic spiritual stuff is independent of matter, remain

[32] Cf. Moreland, *Consciousness*, pp. 53-69.

[33] Cf. Moreland, *Consciousness*, pp. 70-94.

[34] Cf. Moreland, *Consciousness*, pp. 51-52, 179-190.

[35] For an overview and critique of Moreland's dualistic arguments see Graham Oppy, 'Critical Notice of J.P. Moreland's Consciousness and the Existence of God', EJPR, 3 (2011), 193-212 (pp. 205-211).

a merely logical possibility, they remain purely fictional and cannot be in the scope of natural explanations.

In contrast, strategy 2) could try to narrow down the notions of natural explanation to the idea of *neo-Darwinian explanation*, for which change and survival of the species are the core parameters. Although this is a promising way since it excludes any form of explanation referring to design or a creator's intention right from the start,[36] appealing to phenomenal content alone won't do the trick if one wants to have good reason to say that neo-Darwinian explanations aren't sufficient. For in a neo-Darwinian framework it is still possible to explain the occurrence of phenomenal content as a means to increase the chances of survival and prosperity for any species equipped with cognitive faculties and their biological substratum which allows phenomenal content to occur. This is precisely the reason why anyone who is willing to pick up a fight with neo-Darwinian theories of non-theistic evolution rather shies away from using phenomenal content as a starting point. Alvin Plantinga for example, who has offered an anti-naturalistic argument in different versions,[37] emphasizes the interesting fact that our cognitive capacities are aimed *at truth*. The desire for truth – as opposed to wishful thinking, resilience or self-delusion – may be seen as something that remains outside the fence of neo-Darwinian explanations.[38] But if we move from phenomenal content to the desire for truth in refurnishing AfC, we have actually left AfC for the classic alethological argument[39] (famously proposed by St. Augustine[40] and alluded to by St. Anselm). So again, this strategy fails in saving the genuine idea of AfC.

Eventually strategy 3) will take up the pieces of strategy 2) in order to use an entirely different feature of consciousness as a starting point. The

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[36] See Michael Rea, *World Without Design: The Ontological Consequences of Naturalism* (Oxford: Oxford University Press, 2004).

[37] Cf. Alvin Plantinga, *Warrant and Proper Function* (Oxford: Oxford University Press, 1993). See also Alvin Plantinga, *Where the Conflict Really Lies: Science, Religion, and Naturalism* (Oxford: Oxford University Press, 2011), pp. 307-350.

[38] Cf. for example John Haught, *God After Darwin. A Theology of Evolution* (Boulder: Westview Press, 2000).

[39] It should be added that the alethological argument in its classical form has certain flaws since it seems to foster the idea that God is the truthmaker for everything in saying that God and truth are identical. Maybe Plantinga's version, which remodels the alethological argument within the framework of a fine-tuning-argument, is the best we can get nowadays.

[40] Cf. St. Augustine, *De libero arbitrio* II, 5-39.

feature in question, however, must be one that relates almost immediately to theistic explanation, i.e. the feature in question must be such that it cannot be understood (epistemologically and metaphysically) without reference to God. Philosophers within the continental tradition, close to German idealism, have pointed to the First-Person-Perspective (FPP) as the core aspect of consciousness we are looking for.[41] Paradigmatically, the argument, which brings this aspect to our attention, runs as follows:

(1) Human consciousness is based and rooted in a FPP.
(2) FPP constitutes the uniqueness of a person's self-consciousness.
(3) Natural explanations cannot account for uniqueness.
(4) Explanations that cannot account for uniqueness are unsatisfying in the light of an adequate phenomenology of consciousness.
(5) Natural explanations cannot account for the FPP.
(6) Therefore, natural explanations are unsatisfying.

The phrase 'uniqueness' in this case means that an entity is absolutely irreplaceable. Well, this sounds somewhat counter-intuitive, because we may say that any person is replaceable; there are enough people on the planet that could fill in my positions, take up my profession or even be the head of my family. But all these things are mere functions and roles, which are attached to myself, more or less accidentally. But for the unique perspective on the world, which my self represents, I am truly unique and irreplaceable.[42] If there is something substantially irreducible about de-se-sentences it has to do with the uniqueness of the FPP. Given that this is a sound circumscription of uniqueness the question remains why physical-functional concepts or properties may remain insufficient in furnishing an explanation of its origin, extension, constituents or phenomenal qualities. Here is, indeed, the sticky part of the argument. Because any answer would have to lay the foundation for a new version of property dualism in emphasizing that the properties that account for the uniqueness of EPP are significantly different from physical-functional properties. But how so? A response will have to start with the idea that physical-functional properties don't have irreplaceable constituents – quite

[41] Cf. Gunnar Hindrichs, *Das Absolute und das Subjekt: Untersuchungen zum Verhältnis von Metaphysik und Nachmetaphysik* (Frankfurt a.M: Klostermann, 2008), pp. 227-249.

[42] For an elaborate version of this idea see Geoffrey Madell, 'Materialism and the First Person', in *Minds and Persons*, ed. by Anthony O'Hear (Cambridge: Cambridge University Press, 2003), pp. 123-139 (esp. 130-132).

the opposite: Functions permit perpetuation and repetition, which allows the exchange of elements or parts. Another indication to distinguish the different aspects of FPP on the one side and functional properties on the other could be that any function takes time to process whereas the connection between transparent phenomenal experiences and a meta-awareness of myself experiencing something occur and coincide instantaneously and simultaneously. Still, there are some loose ends in this argument. First of all, the notion of being *explanatorily unsatisfying* per se does not entail any indication that a theistic explanation would offer a solution. Secondly, even if we could move from the fact that a natural explanation remains unsatisfying straightforwardly to a theistic explanation, one would be curious to see exactly *how* theistic concepts will do their job in explaining the uniqueness of FPP. A conceptual offer comes from German idealism again: To Hegel, for instance, it seemed metaphysically and epistemologically apparent that God as the absolute FPP is the ontological soil any finite FPP is rooted in. If God is seen as a principle of omni-subjectivity, he could help explaining the occurrence of FPPs in a universe which, taken from its purely physical side, might have evolved without any FPP since the laws of nature that have guided its evolution cannot account for the origin of FPPs.

But, the mentioned loose ends could still threaten the entire validity of AfC. And to successfully tie these ends together might be complicated. So, it might be worthwhile to ask whether the uniqueness-approach can be strengthened and somewhat simplified. A promising way is Hegel's combination of self-consciousness and morality,[43] which can be transformed into the following argument:

(1) Human consciousness is based and rooted in a FPP.
(2) FPP constitutes the uniqueness of a person's self-consciousness.
(3) The uniqueness of self-consciousness becomes apparent in moral experiences.
(4) Moral experiences are based on moral properties that aren't identical (maybe not even supervenient) with physical-functional properties.
(5) Naturalistic explanations are rigorously related to physical-functional properties.
(6) Naturalistic explanations aren't related to moral properties.

[43] Cf. Georg W.F. Hegel, *Phänomenologie des Geistes*, ed. by W. Bonsiepen (Hamburg: Meiner, 1988), pp. 395f.

The crucial premises are apparently (3) and (4). Premise (3) combines uniqueness with moral experience. But how so? Hegel, along with other traditions, underlines that the experience of moral properties results in an awareness of and a call for duty, which picks *me* as its addressee irrevocably. In this case uniqueness is introduced in terms of being irrevocably referred to or being irreplaceably called to action. So, it might not be too hard to show how premise (3) could be true: Just try to imagine being the witness of an accident. To be called to rescue injured people is irrevocably addressed to myself even if other persons are available to step in. Furthermore, even if they step in for me, this would not take away the one single part of the duty that has been addressing me, because there isn't an experience of duty, which is not, at the very same instant, *my* duty. Intuitively, Hegel is right in basing the experience of FPP and uniqueness on the experience of duty. Similarly, premise (4) will be quite convincing as well, once we consider it impossible to reduce moral properties to physical properties, because we have good reasons to claim that moral *guises* are intrinsically and structurally different from physical-functional properties. Precisely here is the point where we can make use of the lessons we learned previously in emphasizing the doctrine of revelation and the principle of genuine content. In this case, the difference becomes obvious once we agree that moral properties present something as good or desirable while physical properties are aspects or features of what is presented as good or desirable. Since the presenting instance and what is presented cannot be identical we must not assume that moral properties are identical to physical-functional properties. Furthermore, we don't even have the slightest piece of evidence to think that moral properties supervene on physical properties, because we can easily imagine a world with the very same physical properties realized and instantiated but without the display of moral properties tout court. If Hegel's idea is sound, we may have found a way to improve AfC significantly. The lessons we have learned in defending phenomenal consciousness against a posteriori materialism is still present. However, strategically we have moved from consciousness as such to ethical awareness and morality.

But why isn't this version of AfC not just an argument from morality[44] with some AfC icing on the top? In Hegelian terms the answer would be that a naturalistic explanation couldn't shed any light on the constitution

[44] Cf. Paul Copan, 'The Moral Argument', in *The Rationality of Theism*, ed. by Paul Copan and Paul Moser, pp. 149-174 (esp. 152-153).

of a FPP, which is the crucial presupposition for the moral realm that rests on responsibility and conscience. In other words: The feature that allows us to perceive what makes *consciousness* unique is *conscience*. And this is something that goes beyond qualitative experiences but is, nevertheless, related to them. Additionally, a Hegelian version of AfC will be more than another variation of fine-tuning arguments if we have evidence that for any conscience-gifted FPP we need to postulate a more or less immediate *participation* in – what Hegel calls – the absolute. At this point we can offer, at least, a conditional to save AfC as a genuine argument: If conscience as a characteristic feature of consciousness (in its overall ethical and intellectual aspects) offers a unique quality, which cannot be understood correctly if the conscience's perspective isn't rooted in an 'absolute' dimension, a non-theistic 'explanation' of consciousness won't suffice.

IV. CONSCIOUSNESS AND DIVINE CONSCIOUSNESS

That there might be a chance to improve AfC is not exclusively good news for the theist if any improvement is based on knowledge arguments in the long run, because at this very point one could get pushed into Nagasawa's trap, which in a more detailed but still condensed version can be circumscribed as follows:[45]

(1) The acquisition of certain concepts *C* implies gaining knowledge; and the lack of certain concepts *C* implies a lack of certain knowledge.
(2) There is at least one situation in which a rational being *a* lacks certain concepts (because of a situation or context *S*).
(3) There is at least one situation in which a rational being *a* lacks certain knowledge.

At first glance, (3) doesn't seem to be a huge problem. However, if we should have a reason to think that God lacks certain concepts humans do have (atheistic philosophers like Michael Martin[46] have introduced the concept of envy or fear, because it seems in order to understand these concepts you need to have had the real experience of envy or fear), he would lack

[45] Cf. Nagasawa, *God and Phenomenal Consciousness*, pp. 120-122.

[46] Cf. Michael Martin, 'Conflicts Between the Divine Attributes', in *The Impossibility of God*, ed. by M. Martin and R. Monnier (Amherst – New York: Prometheus, 2003), pp. 242-257.

certain knowledge as well. And therefore God wouldn't be omniscient. The theist is confronted with some kind of dilemma: In case AfC works (despite the above-mentioned problems and challenges), it originates from a knowledge argument whose structure could backfire and undermine classic theism, at least certain constituents of classic theism. If AfC does not work, however, the theist would not have to face this particular danger at that point but he might nevertheless lose a good piece of evidence in favour of God's existence. So, is it wise to shy away from knowledge arguments as such in order to save divine omniscience eventually?

It is interesting to notice that from within the philosophy of mind we may get a helping hand for escaping this very problem, i.e. the first horn of the dilemma. In his recent book Michael Tye has expressed dissatisfaction with the idea of phenomenal concepts. For phenomenal concepts won't help the a posteriori materialist explain the special aspects and features of phenomenal experiences, because as concepts they don't stick out.[47] Phenomenal concepts according to Tye are, like other concepts, open to reference confusion and concept sharing. For example, in applying a concept to a given phenomenal experience we may be insecure which concept to pick if the situation is complex.[48] And, on the other hand, we can use the phenomenal concepts we have to discuss certain problems with someone who may not have had a certain colour experience but who may know from books and who may have learned from third person testimony that, for example, the colour of German post offices is yellow.[49] Tye's very own solution is to abandon the idea of phenomenal concepts as a means to approach what seems to be special about qualitative content. Instead, he turns to an interesting distinction inside the concept of knowledge, making a difference between knowing facts and knowing things (which Tye equals with knowledge by acquaintance). Frank Jackson's Mary in this perspective would be a person that knows all the relevant physical facts about colours but who lacks phenomenal experience and, therefore, lacks certain knowledge of things:

> There is a kind of knowledge of the color of red that is not given to us by our knowledge of all the relevant physical facts. The knowledge we get by acquaintance. There is a kind of knowledge of the color red that is not given to us by our knowledge of all the relevant physical facts. The

[47] Tye, *Consciousness Revisited*, p. 56.
[48] Cf. Tye, *Consciousness Revisited*, p. 45.
[49] Cf. Tye, *Consciousness Revisited*, pp. 63-69.

> knowledge we get by acquaintance with red is *logically* independent of our knowledge of truths. Indeed, it is *physically* possible for someone (for example, Mary in her black-and-white-room) to know all the physical facts pertaining to the experience of red and not know red (in the relevant sense of 'know'). Thus, knowing the relevant facts does not in itself enable us to know red rather than green.[50]

Addressing the idea of knowing things versus knowing facts could be Tye's version of having the cake and eating it, too. Because in the light of Tye's distinction Frank Jackson's poor Mary appears to be, let's use Nagasawa's phrase,[51] (only) prima facie *omniscient* with regard to the facts one could know about colours. Nevertheless, according to Tye, Mary lacks a certain knowledge of things (which is the access mode we are in whenever we have a colour experience).[52] So, Mary's knowledge wasn't perfect to begin with.[53] Although it parts ways with what Tye said about Mary's case, it sounds just right if we suppose that ultimately knowledge of facts must be rooted in knowledge of things. Therefore, we can as well say that Mary isn't *ultima facie* omniscient, even if we can admit that she doesn't gain knowledge of facts after her release.

But how could Mary's situation help us in escaping what I have called the Nagasawa trap? For some philosophers God's apparent lack of knowing how it is to be me (according to Grim) or how it is to feel envy (according to Martin) puts a serious threat to divine omniscience. While Nagasawa holds that God could be held responsible for omniscience deficits only if it ever *were* within his epistemic powers to know such truths,[54] so that in the end neither Grim nor Martin would have the epistemic right to put God on trial, I would like to propose the idea that whatever they call a lack of knowledge is measured against the rather imperfect standards of propositional knowledge (a term which I want to use to broaden Tye's notion of knowledge of facts). Indeed, there are good reasons to think that divine consciousness performs its cognitive powers predominantly, if not exclusively, as the knowledge of things. Theologically – and this may turn Tye's conceptual distinction from heads to tails – it is sound to think that knowledge of things is

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[50] Tye, *Consciousness Revisited*, p. 139.
[51] Cf. Nagasawa, *God and Phenomenal Consciousness*, p. 120.
[52] Cf. Tye, *Consciousness Revisited*, p. 119.
[53] Cf. Nagasawa, *God and Phenomenal Consciousness*, pp. 125-128.
[54] Cf. Nagasawa, *God and Phenomenal Consciousness*, pp. 21-23 and 58-73.

superior to knowledge of propositions and that an ultimately perfect and eternal being has simultaneous knowledge of things with knowledge of facts being a surrogate only for those beings that exist in time and are therefore bound to memory, derivation and inference.

Now, what are the benefits of this view? Any omniscience as well as any foreknowledge problem seems to arise from the notion of propositional knowledge. Questions like whether or not God knew yesterday that I am wearing a necktie today are tied to the concept of propositional knowledge. We can undermine this kind of questions and their paradoxical if not dialectical answers if we assume that God doesn't have propositional knowledge (at least not primarily or not in the ways in which we have propositional knowledge). Especially foreknowledge problems are crucially linked to propositions and get sharpened by necessity-expressions. So, if we had reasons to say that divine knowledge is not appropriately, at least not fully captured by expressions of propositional knowledge we might see a way to avoid theistic fatalism. The problem of theistic fatalism arises from a conditional: If God (now or eternally) knows that *p* will occur tomorrow, then the occurrence of *p* cannot be within the range of an open future, i.e. within the range of significant freedom which would have the capacity to bring about non-*p*. But what if God, once we take the phrases literally, does not *know that p* will occur but rather has some sort of knowledge by acquaintance of what the substance behind *p* is? If the latter were true, we would have no reason to say that God's infallible knowledge of facts *causes* an event to occur since knowledge by acquaintance is meant to be a specific sort of accompanying, non-inferential knowledge, which per se cannot have any causal effect.

This idea, however, may not be easy to accept; and some will ask if we have reasons to assume that God doesn't have propositional knowledge (at least not primarily) and how God performs any cognitive activity. For the outline of an answer we will find some precious hints in Aquinas to support the idea of a primary and specifically divine knowledge of things (a term that shall be used to describe the ontological side of a knowledge of things). To Aquinas discursive knowledge (which is the result of propositional knowledge) would destroy divine simplicity because in knowing propositions there would be parts within divine knowledge.[55] Furthermore, propositional knowledge includes knowledge gained

[55] Cf. Aquinas, S.Th. I q. 14 a 7.

by inferring and deriving conclusions, whereas divine knowledge is absolutely immediate and, so to speak, basic. The closest notion of knowledge that could ever fulfil the standards of divine simplicity is knowledge of things. According to Bertrand Russell's famous definition there are situations in which knowledge of things is as immediate as exhaustive, although it seems to be non-conceptual (or, at least, pre-conceptual) and non-derivative.[56] Of course, we may wonder how divine knowledge of things can keep divine simplicity intact although there is a plurality of things or substances in this universe. The answer to that question is a common denominator of medieval philosophy: the primary thing God is acquainted with is his very own essence.[57] Therefore, divine knowledge is superior, perfect, instantaneous and complete, for within the knowledge of his very own essence he knows everything else (taken literally: every-thing else) by acquaintance. Admittedly it is not easy to even get a glimpse of this mode of knowing. Aquinas offers an interesting model which shall be extended and given the form of a thought experiment: Imagine yourself as being some kind of advanced mystic. After years of exercise and training you have the unique experience of being at the very centre of everything while experiencing no passage of time (within yourself) and no unbridgeable distances in space any longer. Nevertheless you would still be able to see the differences of things you are acquainted with in this instantaneous experience. But the point of reference for measuring any difference and diversity would be you as the very centre of this experience. Comparably, God perceives in an instantaneous mode, in an unsurpassable 'now' the diversity and difference of things as they appear through the lenses of his very essence.[58] If God has propositional knowledge, the only adequate concept he could use would be the non-exhaustive concept of his own essence – with the essence of things filtered through the knowledge of his own essence. But how could this avoid fatalism? A first response says that the modus-ponens-result, which derives the necessity of an event from divine infallibility, cannot be correct, given that the conceptual

[56] Cf. Russell, *The Problems of Philosophy*, p. 31.

[57] Cf. Aquinas, S.Th. I q. 14. a. 4-6.

[58] I also assume that this could be one way to make sense of Linda Zagzebski's fascinating idea of divine omnisubjectivity which she has introduced to make individual De-se-knowledge accessible for the divine knower. See Linda Zagzebski, 'Omnisubjectivity', *Oxford Studies in Philosophy of Religion*, Vol. 1, ed. by Jonathan Kvanvig (Oxford: Oxford University, 2008), pp. 231-247.

form of the conditional, which expresses knowledge of facts, isn't a valid depiction of the divine state of knowledge. Thus, the transfer of necessity from the antecedent to the subsequent part of the conditional needs not to be accepted. But isn't there anything more to say about the state of divine knowledge apart from the above-mentioned negative answer that pointed to possible failures in conceptualizing divine knowledge?

Perhaps John Duns Scotus's exposition of the problem will shed some additional light; in accordance with Aquinas and others Scotus agrees that the divine essence is the primary thing God is acquainted with. It is as primary for him as God's being is the ultimate goal for every human action. And in analogy to the fact that the presence of God's being as the ultimate goal in every human action does not disturb humans in directing their will to finite things, God's knowledge of things isn't disturbed by knowing his very own essence as the primary object.[59] Furthermore, within the divine essence the finite beings are presented[60] while this presence relates them to divine infinity[61] so that this very infinity shapes their finitude[62] and therefore their being distinct from God.[63] Scotus insists that God knows individual substances by acquaintance. But since individual substances are finite and seated in space and time, they are present to an eternal God in their (what we may call) counterparts,[64] which are their individual essences.[65] However, this doesn't make the individual substances eternal. Having their essences as eternal counterparts is just the mode of their being presented to and known by an eternal God.[66]

However, this is the point where Scotus parts ways with Aquinas and the Boethian idea of eternity. For Scotus the future cannot be simply present and, therefore, cannot be an equivalent relatum of the eternal now, which is God's very own privileged point of view. Since eternal co-presence presupposes that both sides of the relation are actual, God cannot be co-present with future events.[67] What sounds like Scotus's

[59] Cf. John Duns Scotus, Ord. I, Dist. 35, q. unica, n. 29.30.
[60] Cf. John Duns Scotus, Ord. I, Dist. 35, q. unica, n. 14.15.
[61] Cf. John Duns Scotus, Ord. I, Dist. 35, q. unica, n. 32.
[62] Cf. John Duns Scotus, Ord. I, Dist. 35, q. unica, n. 16.17.20.
[63] Cf. John Duns Scotus, Ord. I, Dist. 35, q. unica, n. 26.
[64] Cf. John Duns Scotus, Ord. I, Dist. 35, q. unica, n. 44.45.
[65] Cf. John Duns Scotus, Ord. I, Dist. 35, q. unica, n. 31.32.
[66] Cf. John Duns Scotus, Lect. I, Dist. 36, q. unica, n. 22.
[67] For a substantial analysis see Pascal Massie, 'Time and Contingence in Duns Scotus', in *The Saint Anselm Journal*, 3 (2006), 17-31.

appreciation of some form of presentism turns out to be a sophisticated alternative to a temptation created by the Boethius-Aquinas way of interpreting divine eternity, a temptation that consists in making contingent entities or events somehow eternal before God's point of view. For Scotus, time is not like a frozen circle around a centre, which is God's perspective. Rather it resembles a moving flow in the shape of a circle around the divinely immovable spot.[68] God is not subject to time; but the order of time is relevant to him in his very own eternal co-presence. Thus, what is necessary and eternal is seen by the divine mind as an uninterrupted pattern in a, let us use this somewhat problematic analogy, panoramic visual field, while contingent things are changing, often interrupted and yet related patterns which aren't by any means continuous appearances in this field.[69] Avoiding the danger of making contingent entities eternal, Scotus emphasizes that future contingents aren't predominantly presented to the divine intellect, which (as any) intellect refers to what is given, i.e. actual. So, it is the divine will that relates to future contingents, making them determinate.[70] And future contingents are ontologically present to the divine will as intentional objects. The key mistake of theistic fatalism, in Scotus's view, is to treat future events as a given to a past state of divine knowledge. But future events aren't a given since they are not actual (nevertheless as potentials they are in some way existing and can serve as intentional objects). And, additionally, there is no past stage of divine knowledge, since God is not subject to time but *present to himself* in an eternal now.

But how does this idea refer back to the predominance of the knowledge of things? Didn't we talk of future events although we tried to get away from any expressions that pictured divine knowledge in terms of knowing facts? Maybe the final story can be told like this: In their essences individual things and their changes are to be cognized as centres for patterns of properties with potential properties (as intentional parts) replaced by actual properties – a replacement which depicts the order of time and temporal change in the tenseless view of divine eternity. Whereas, in our tensed view those properties are the truthmakers of facts or are the potential truthmakers of future events. Since we do not have a divine perspective, the continuance of a thing enduring its changes

[68] Cf. John Duns Scotus, Lect. I, Dist. 39, qq. 1-5, n. 85-87.
[69] Cf. John Duns Scotus, Lect. I, Dist. 39, qq. 1-5, n. 65.
[70] Cf. John Duns Scotus, Lect. I, Dist. 39, qq. 1-5, n. 64.

comes to us as some abstraction. For God, however, the essences of things are the immediate objects of his privileged knowledge. If God should have further knowledge of propositions in addition to the knowledge of things, this propositional knowledge has to be conceptually different from our propositional knowledge (since God sees everything through the lenses of his essence) and, to say the least, must transform tensed propositions into tenseless ones (at least many medieval theologians voted for such a transformation).

But what can this picture of divine knowledge do for the Nagasawa problem? Omniscience, defined in accordance with so-called knowledge arguments, seems to be related to the set of all true propositions. Indeed, if divine knowledge were of that kind, even one element missed by divine knowledge would raise the suspicion that God is seriously lacking omniscience. Instead of discussing whether or not God's omniscience could survive if it were related to only a subset of all true propositions, medieval philosophers have painted another picture: at the backside of the set of all propositions there is the set of all actual (and possible) individuals through their essences. In knowing all essences by acquaintance God knows everything there is to know even though he doesn't have the propositional knowledge we have. In other words: God looks at the universe in a very different way. Recalling theological traditions we have reason to think that his knowledge by acquaintance is way superior to our modes of knowing, while propositional knowledge is needed where immediate access is lost or the simplicity of the state of knowing cannot be granted. One indicator that helps us to subscribe to this view is that knowledge by acquaintance is immediate, whereas propositional knowledge is not. Another one would be to say that propositional knowledge cannot really grasp the individuality of individual substances since for propositional knowledge individuals appear to be instances of universals (with propositions being the offspring of universals), while within divine knowledge individual essences are grasped in their individuality, since they aren't perceived as cases of something universal, because they are measured by the standards of the divine essence, which is the instance of pure singularity.

V. CONCLUSION

Now with this emphasis on the difference between knowing things and knowing propositions we may eventually have to deal with the

question whether we have undermined AfC completely. As it appears the theologically speculative idea of divine knowledge was built upon the graveyard of knowledge arguments. Do I have to bury AfC once we move away from the premises of knowledge arguments as such? Well, this might not be the last word here. Looking at the philosophy of consciousness from a distance, anyone will notice certain cycles of loading off problems; eventually the dualism of facts and concepts was pushed to the duality of knowing facts and knowing things. And as long as there is some duality at work we will always have the space to come up with conceivability arguments. In this case we should wonder whether or not there is a possible world in which people have knowledge of facts without knowledge of things. If knowledge of facts is necessarily rooted in knowledge of things we would be forced to imagine something truly impossible. But maybe there is no necessary connection (at least we can think of God being a very prominent exemption) so that the natural connections between knowledge of facts and knowledge of things are typical for human beings and animals inhabiting the actual world. Based on this assumption we can imagine a world without knowledge of things. Any form of cognitive processing would be somehow derivative and mediated through certain detour calculations. A world like that would resemble a robot world presenting an encyclopedia of (true) propositions without having ever touched the ground of knowing things. But what exactly makes the difference between this world and our world where knowledge of things is not an unusual though sometimes rare access-mode? There are some reasons to believe that the First-Person-Perspective makes the difference since this perspective seems to be at the very bottom of knowing things since it is the ultimate role-model of knowing things.[71] If we could come up with further reasons to believe that FPP is the ultimate instantiation or even the prerequisite for the knowledge of things, we could start the engine of AfC again.[72]

[71] Cf. Russell, *Problems of Philosophy*, p. 34.

[72] Acknowledgment: This paper was originally presented in Munich, at a conference for the Analytic Theology Project, generously funded by the John Templeton Foundation.

A 'TRINITARIAN' THEORY OF THE SELF

HOWARD ROBINSON

Central European University, Budapest

Abstract. I argue that the self is simple metaphysically, whilst being complex psychologically and that the persona that links these moments might be dubbed 'creativity' or 'imagination'. This theory is trinitarian because it ascribes to the self these three 'features' or 'moments' and they bear at least some analogy with the Persons of the Trinity, as understood within the neo-platonic, Augustinian tradition.

I. INTRODUCTORY REMARKS

The theory of the self that I want to defend in this paper is trinitarian because it ascribes to the self three 'features' or 'moments' - with these expressions used in the most neutral sense possible – and these three bear at least some analogy with the Persons of the Trinity. In fact, the theory might be thought of as having more direct affinity with neo-Platonism than with the Christian doctrine, though that there are important parallels there, especially in the Augustinian tradition, is very well known.

In order to construct this picture of the self, I shall, in some sections of this paper, draw on arguments that I have deployed elsewhere, and I apologize for a certain amount of repetition of previously published themes. I shall do this only to the extent necessary to make the argument presented here clear and plausible in its own right.

II. OUTLINE OF THE POSITION

The three features of the self are as follows. First, the self is a simple entity. This is a view that I have defended in various places, most recently in Robinson (2011). Second, there is the obvious complexity of the Self,

as revealed in the fact that we all have many mental states and processes. This raises the obvious problem of how a simple thing can also be complex. The third feature, which is connected with this latter problem, is the process or manner by which the essentially simple self expresses itself in the complexity of its psychology. I shall argue that the human subject is equally present in all these features or modes of its existence, that is, as a simple metaphysical entity, as the complex psychology in which it is expressed, and in the process of expression that leads from the simple subject to the complicated psychology.

III. THE SIMPLE SELF

The argument for the simplicity of the self is currently under-discussed, although it seems to me to be an argument of considerable importance. I shall try to rehearse the argument with as much brevity as the need for persuasive detail will allow.

There is a long tradition of arguing that the identity of persons over time is not a matter of convention or degree in the way that is the case for complex physical objects – such as Theseus's ship. There is something absolute – all or nothing – about one's being numerically the same person at 70 as at 7.

But this intuition is controversial and does not command universal, or even general, assent. Growth, aging, and especially radical changes in personality due to accidents or diseases are claimed to make one into 'a different person'.

I think that the issue can be made sharper and clearer, however, if one moves from considering identity through time to the rather less familiar matter of identity under counterfactual circumstances, especially those concerning origin. Instead of asking whether Theseus's ship was the same object when half its planks had been replaced, we ask whether it would have been the same ship if it had been constructed with different materials in the first place. So we are not considering changes within its life as a boat, but possible differences at its origin. Thus we are considering *counterfactuals of origin,* that is, things that might have been different at the beginning of the existence of an object. (Such things are *counterfactuals* because they state how things *might* have been, not how they, in fact, were.) We would probably agree that if the ship had been made not of wood but of gold, it would not have been the same ship at all. But if it had been made of, say, 10% different planks and 90%

the same ...? This thought experiment can be duplicated for any complex physical object. One might be tempted to follow Williamson's epistemic line and say that there must be a fact, just one that is unbeknownst to us (Williamson 1994). I – and many others – have argued against that as a treatment of vagueness elsewhere (Robinson 2008-9). I am going to assume that the correct response to such things is to say that there is no fact of the matter about whether it would or would not have been the same in the borderline cases. Once the story has been told about such and such differences, those are all the real facts. There is more or less overlap of constitution, but what, if anything, one says about identity is a matter of choice. As I hope to show, a similar treatment cannot be meted out in the case of persons, when it comes to these counterfactual cases, even though it looked as if it could in the case of identity through time.

Let us try to apply the same thought experiment to a human being. Suppose that a given human individual – call him Jones - had had origins different from those which he in fact had such that whether that difference affected who he was is not intuitively obvious. We can approach this by imagining cases where it seems indefinite whether what was produced was the same body as Jones in fact possesses. What would count as such a case might be a matter of controversy, but there must be one. Perhaps it is unclear whether Jones's mother would have given birth to the same human body if the same egg from which the Jones body came, had been fertilized by a different though genetically identical sperm from the same father. Some philosophers might regard it as obvious that sameness of sperm is essential to the identity of a human body. In that case, imagine that the sperm that fertilized the egg had differed in a few molecules from the way it actually was; would that be the same sperm? If one pursues the matter far enough there will be indeterminacy which will infect that of the resulting body. There must therefore be some difference such that neither natural language nor intuition tells us whether the difference alters the identity of the human body; a point, that is, where the question of whether we have the same body is not a matter of fact.

These are cases of substantial overlap of constitution in which that fact is the only bedrock fact in the case: there is no further fact about whether they are 'really' the same object.

My claim is that no similar overlap of constitution can be applied to the counterfactual identity of minds.

To see why this is so, imagine the case where we are not sure whether it would have been Jones' body – and, hence, Jones – that would have

been created by the slightly modified sperm and the same egg. Can we say, as we would for an object with no consciousness, that the story 'something the same, something different' is the whole story: that overlap of constitution is all there is to it? For the Jones body as such, this approach would do as well as for any other physical object. But suppose Jones, in reflective mood, asks himself: 'If that had happened, would I have existed?' There are at least three answers he might give to himself. (i) 'I either would or would not, but I cannot tell.' (ii) `In some ways, or to some degree, I would have, and in some ways, or to some degree, I would not. The creature who would have existed would have had a kind of overlap of psychic constitution and personal identity with me, rather in the way there would be overlap in the case of any other physical object.' (iii) `There is no fact of the matter whether I would or would not have existed: it is just a miss-posed question. There is not even a factual answer in terms of overlap of constitution.'

The second answer parallels the response we would give in the case of bodies. But as an account of the subjective situation, I claim that it makes no sense. Call the creature that would have emerged from the slightly modified sperm, `Jones*'. Is the overlap suggestion that, just as, say 85% of Jones*'s body would have been identical with Jones' original body, and about 85% of his psychic life would have been Jones'? That it would have been like Jones' - indeed that Jones* might have had a psychic life 100% like Jones' - makes perfect sense, but that he might have been to that degree, the same psyche - that Jones '85% existed' - makes no sense. Take the case in which Jones and Jones* have exactly similar lives throughout: which 85% of the 100% similar mental events do they share? Nor does it make sense to suggest that Jones might have participated in the whole of Jones*'s psychic life, but in a rather ghostly only-85%-there manner. Clearly, the notion of overlap of numerically identical psychic parts cannot be applied in the way that overlap of actual bodily part constitution quite unproblematically can.

It is important to notice how the identity across counterfactuals of origin case differs from that of identity through changes across time. It concerns what one might call *empathetic distance*, which is essential to the problematic nature of identity through time but irrelevant in the counterfactual case.

Suppose that my parents had emigrated to China whilst my mother was pregnant with me, and that, shortly after my birth, both my parents had died. I was then taken in by Chinese foster parents, lived through

the revolution and ended up being brought up in whatever way an alien would have been brought up in Mao's China. None of this person's post-uterine experiences would have been like mine. It seems, on the one hand, that this person would obviously have been me, and, on the other, that it is utterly unclear what kind of empathetic connection I can feel to this other 'me'. If I ask, like Jones, `would this have been me?', I am divided between the conviction that, as the story is told, it obviously would, and a complete inability to feel myself into the position I would then have occupied. This kind of failure of empathy plays an important role in many stories that are meant to throw doubt on the absoluteness of personal identity. It is important to the attempt to throw doubt on whether I am the same person as I would become in fifty years time, or whether brain damage would render me `a different person' in more than a metaphorical sense. It is also obviously something that can be a matter of degree: some differences are more empathetically imaginable than others. In all these cases our intuitions are indecisive about the effect on identity. It is an important fact that problems of empathy play no role in the counterfactual argument. The person who would have existed if the sperm had been slightly different, could have had as exactly similar a psychic life to mine in as exactly similar environment as you care to imagine. This shows the difference between the cases I have discussed and the problematic cases that involve identity through time. In those cases the idea of `similar but not quite the same' gets empirical purchase. My future self feels, in his memory, much, but not all, of what I now feel. In these cases, overlap of conscious constitution is clearly intelligible. But in the counterfactual cases, imaginative or empathetic distance plays no essential role, and the accompanying relativity of identification gets no grip.

We have considered (ii), the option that its identity might be a matter of degree and rejected this. But what about (iii), the suggestion that there is no fact of the matter whether I would or would not have existed? This boils down to the thought that there is no firm difference between qualitative similarity and numerical identity: degree of similarity of personal history is the only fundamental relation between the two cases. After all, we have a strong feeling that there must be more in the case of bodies, yet we seem to have been forced to accept that this is not the case. Could our sense that there must be such a distinction in our own case be an illusion? Is that conception of the self which makes us feel so sure that someone physically just like me but with a somewhat different origin

either is me or is not, something that needs 'deconstructing', after the fashion of Derrida, Nietzsche or Hume?

I do not think that the idea 'just like me but the idea of whether it would be me or not has no content' can be made acceptable. Whereas in the case of physical objects we can see, after a little thought, that the qualitatively similar gives us all we thought we needed by talking about particulars, it will not do this in the case of minds.

Consider the following example. Suppose you discover that, in the very early stages in the womb, you were one of twins, but that the other did not develop, and that it could have easily happened the other way round; the other would have survived and you died in the first few days. The similarity between you as survivor and your twin, had he survived in your stead, both in genetic endowment and environmental circumstances and subsequent experience, could have been almost complete. Nevertheless, there is no sense that, on reflection, it makes no serious factual difference, concerning your own fate, which of the two survived. Just as it is true that, if your parents had never met, then you would not have existed, equally, if the other bundle of cells had developed instead of yours, you would not have existed. This is, in no sense, a matter of decision, convention or degree.

So it would seem that we can conclude that the only possible answer to the question which I supposed Jones to have asked himself above, 'if that had happened, would I have existed?' is (i), 'I either would or would not, but I cannot tell. If there is a real fact, independent of our convention or decision, in this case, then it shows that counterfactual identity facts are real facts in the case of minds, in a way that they may not be for physical objects.[1]

One might respond to this argument by claiming that the difference between the twins is quite clear: they come from different physical sources and so have different bodies. This is true but misses the point of the story. If I am convinced that I would not have existed, this does not

[1] I have not discussed or allowed for David Lewis's notorious modal realism. According to Lewis, every possibility represents a completely different spatio-temporal system. So the sentence 'I might have had a fried egg for breakfast yesterday' (though I did not) is made true by the existence of a universe spatio-temporally unrelated to this one in which someone otherwise just like me (my 'counterpart') did have a fried egg for breakfast on the parallel day. On this view, in the most basic sense, *nothing at all* sustains counterfactuals, because all other possibilities are realized in counterpart entities, which, strictly speaking, are different things from the objects in the world we inhabit.

mean simply that another body would have existed. It states a further fact, even if it is one that depends or supervenes on the identity of the physical body. But then we have to see how this further fact copes with the indeterminate cases. If there is a real fact in the twin's case, and we cannot answer the indefinite cases in way (ii), with some 'more or less' answer, how is one to move from robust fact to there being no fact at all? Once it is established that there really is something at stake, the nihilist option does not seem to be available. If there is a real issue for clear cases, there will be an indeterminacy as to when unclear cases start. There will be an analogue of higher order vagueness here: there is no clear move from clear fact to no fact.

IV. HOW DOES THOUGHT DERIVE IN OR FROM THE THINKING SUBJECT?

The argument of the previous sections attributes to the conscious subject a unity and simplicity, but one might wonder how something as complex as a human subject can be a simple entity. People have a variety of faculties and capacities, and an almost unlimited number of memories, beliefs, desires, etc.; what does it mean to say that such an entity lacks parts or composition?

The modern theory of thought and active expression in general is computational. On this picture, the complexity of our mental life derives from a complex source, namely the programme that governs the computation and the innate concepts of a "Language of Thought". But the computational theory of thought has many problems. They all stem, I think, from the fact that the computational theory of mind is necessarily a syntactic theory of mind, and this is, in effect, a form of epiphenomenalism. According to STM, the causal efficacy of thinking is due entirely to the physical structure of the Language of Thought, not in any direct way to the meaning or propositional content of the symbols that constitute the language. Searle in his famous Chinese Room argument showed that this is not sufficient to constitute conscious understanding (Searle 1980). There is also a large literature now which convincingly defends the view that there is a phenomenology of thought and understanding. (See, for example, Bayne and Montague 2011.) Fodor does not believe that understanding has anything to do with consciousness, but this is not plausible. Even if a non-conscious being could think as we think, it is not plausible that our consciousness

is epiphenomenal in relation to the results of our thinking. The idea that, in a thoughtful discussion on a complicated philosophical topic, one's consciousness has nothing to do with how one replies to one's interlocutor is no more plausible than the theory that how pain feels has nothing to do with how one reacts, or that the conscious visual experience of a tiger approaching has nothing to do with one's running away. But functionalism is the only physicalist game in town for consciousness, as it is in the form of the computational theory, for thought. It plainly will not do in either case: the situations are quite parallel. Searle once stood almost alone amongst the leading figures in the philosophy of mind in affirming this forcefully, but he has now been joined by Thomas Nagel. Nagel agrees that the syntactic-physicalist approach to thought, that tries to abstract it from both consciousness and the real efficacy of meaning and understanding, is hopeless.

> I shall assume that the attribution of knowledge to a computer is a metaphor, and that the higher-level cognitive capacities can be possessed only by a being that also has consciousness (setting aside the question whether their exercise can sometimes be unconscious). That already implies that those capacities cannot be understood through physical science alone, and that their existence cannot be explained by a version of evolutionary theory that is physically reductive. (2012: 71)
>
> The metaphor of the mind as a computer built out of a huge number of transistor-like homunculi will not serve the purpose, because it omits the *understanding* [italics added] of the content and the grounds of thought and action essential to reason. (2012: 87)

This has the consequence that, contra both Fodor and Dennett, the human mind is a semantic engine as well as a syntactic one. How are we to understand the idea that meaning as well as grammatical form drives our intellectual life? Fodor says that the STM is the only game in town, and, from a physicalistic point of view, that is true. But he also says of the computational model 'the mind does not work that way' (2001): it works only for those processes that are specifically modular, not for the 'common workspace' in which the modules are brought together. This latter claim of Fodor's is controversial, but it is consonant with reservations that Chomsky originally had about the use of his theory of language. As Mark Baker (2011) points out, this lacuna in the scientific explanation of thought was indicated by Chomsky fifty years ago. Chomsky divided language into three elements; the lexicon, syntax and the Creative Aspect

of Language Use. His theory, he claimed, had nothing to say about the last. This is, in part, at least, because understanding is not driven by syntax alone. This would suggest that the Creative Aspect of Language Use, and, hence, the development of thought, when that involves more than formal inferences, but also depends on our grasp of meanings and our understanding of our own projects, depends on something more than features of the neural/computational machinery. Perhaps the natural candidate for being the source of this creativity is the self.

The computational theory of mind has the mind as an essentially complex machine, but it fails. Can a more plausible theory be devised which reconciles both the metaphysical simplicity for which I have argued and the manifold complexity of the way the mind expresses itself? Attempts to answer this question are liable to drive one into what Russell somewhere described as 'soupy metaphysics' and I cannot venture too far into such territory here.[2] Some insight into how one might approach the problem can be gained by considering the 'unity in diversity' that is an essential feature of thought.

Peter Geach has argued that the 'activity of thinking cannot be assigned a position in the physical time-series' (1969: 34). His reason for this is that, though the expression of a thought using a sentence will be spread through ordinary time, one's grasp on the content must come as a whole. If it did not, then by the time one had reached '1066' in the sentence 'the battle of Hastings took place in 1066' one's consciousness of the other components of the thought would have passed into history. What the sentence expresses as a whole is the thought of which one is conscious. Something that has an essential unity finds expression in something that is complex. The position seems thus to be the following. The expression of a thought in a sentence is spread out in the normal 'flowing' empirical time. But the thinking of the thought which, in some sense, 'lies behind' (but not necessarily temporally before) this, is not temporally structured in the same way. Something which is implicit in the thought is laid out explicitly in the sentence. One experiences a thought *in* a sentence – or sometimes in other, non-verbal, images – but as a unity that a mere string of sounds or images does not possess.

Isn't this a somewhat mysterious doctrine? It is, but it is true to the phenomenology of thought. It can also be illustrated by appeal

[2] For a 'non-soupy' defence of simplicity rather different from mine, see Chisholm (1991).

to the distinction between two forms of potentiality. These forms of potentiality can be found in Aristotle, but also, I think, in our common conception of how things work. A hot object may be potentially cold, but to become cold is simply to change a property. 'Potentialities' in this sense signify the range of changes of which an object is capable. But when one exercises a specific ability – even more so, when one articulates a previously implicit thought – this is not a simple change, but a realization or externalization of something that was there but not 'laid out' in an explicit form. And Geach's point is that, when laid out or expressed it still retains the unity originally possessed, otherwise it could not be the expression of the content that it is.

Just as the complexity of a sentence or proposition expresses something which is, in a sense, a more primitive unity, perhaps the relation of the self to its various modes of expression is similar to this. In trying to make sense of this I shall draw on the neo-platonic account of the relation of the One and Intellect, and Aquinas on the Trinity – which are themselves, of course, connected.

V. PLOTINUS, ONE AND INTELLECT

Plotinus's metaphysics is based on the idea that intellectual complexity can unfold from the essentially simple, and he believes that this extends to the individual human subject.

> One must, then, assume that a simple thing thinks itself, and investigate as far as possible how it does so ... (*Ennead* V.3. 1)
>
> ... we ought to think that this is how things are, that there is the One beyond being ... and next in order there is Being and Intellect, and the nature of Soul in the third place. And just as in nature there are these three of which we have spoken, so we ought to think they are present also in ourselves ... (*Ennead* V. 1. 10)

This naturally strikes the modern reader – especially the analytic one – as totally opaque. But, with the help of Geach's remarks concerning the unity of thought given above, perhaps we can entertain the idea that there may be a distinction between two kinds of simplicity. One, which we might call 'minimal simplicity', is the idea that something is simple when it possesses only one essential or internal simple feature. The other, which one might label 'undifferentiated simplicity' is when something possesses a nature which can only be expressed by attributing a complex set of properties but when those properties do not exist in the

thing as separately identifiable elements. This latter idea is, of course, a controversial one. Traditional theology talks of God's properties in this way, but the unity of thought seems similar to this, and, I am suggesting, the relation of the 'simple self' to its expression, in thought and action, is also analogous.

How are we to characterize the movement that is the expression of ourselves in thought and action? The CTM (which, if complete, would also be a Computer Theory of action, or, at least, volition) thought of this as a computational process, but we have rejected that. The inclusion of the semantic or meaning element introduces something which is, in a sense, informal, and could be designated "intelligence" or even "imagination" or "creativity", in a sense of those latter terms in which they differ little from intelligence construed in a wide ranging way. The account is "trinitarian" in that it gives the self three elements or moments: its essential simplicity, its expression as intellect and intelligent action and the process by which it moves from one to the other, namely imagination, creativity or intelligence.

It is not, I think, adequate to think of this as one thing – the self which is simple – *doing* other things, namely expressing itself through its intelligence. The interdependence of the elements is greater than this: they are the essence of the self. Plotinian language seems to me to be here appropriate. Talk of emanation or procession and return captures the informal intelligence by which the self expresses and 'unpacks' itself in thought and action and keeps returning to its implicit resources to develop and grow as a person handling himself in a world.

VI. AQUINAS, THE TRINITY AND THE SELF

What are the similarities and differences in form between what I have claimed about the self and the western doctrine of the Trinity? First, the similarities. Both theories face the problem of how one can have an entity that is both simple and very rich (in God's case, infinitely so) in nature. Both involve a source paired off, so to speak, with something which constitutes its articulation or expression – the Intellect or Logos. And these two are related by a dynamic principle which is what enables one to be an expression of the other and both to communicate their nature.

Both theories claim that there is one substantial thing which has, in its own essential nature, three moments. The parallel between the two is that there is a sense in which one thing is equally present in its

metaphysically simple nature, in its plural, intelligent manifestations and in the process of unfolding the simple essence into this complexity.

But it is at this point that the differences become salient. It is a vital difference between the human self and the Divine Trinity that an individual human being is not three persons, so the presence of the self in its three moments does not give rise to three *hypostases,* three individuals. Given the similarities I have above claimed there to be, should it not be the case that we are, in some such way, triune?

The best way of approaching this problem is by trying to understand what Aquinas means by saying that the three persons of the Trinity exist by being *substantial relations*, for, by contrast, in our case the relations are not substantial in the sense of giving rise to three individuals. Exploring this difference can, I believe, help in explaining both this approach to the self and the meaning of Aquinas's account.

VII. THE DIFFERENCE BETWEEN OURSELVES AND THE TRINITY

Aquinas does have a serious problem in explaining the notion of substantial relations. The persons have to be individuals, so they cannot simply be ordinary relations between the parts of one thing. On the other hand, they cannot be separate substantial things, for that would be tri-theism. The Divine nature must be communicated to the three *hypostases* sufficiently fully to make them individual enough to each be designated 'persons', but not to such as to make them separate substances.

Aquinas claims that one substance – what is more, an absolutely simple one - can be three persons because of a relational structure internal to it.

> For [the Persons] are many by reason of the distinction of subsistent relations, yet one God, nevertheless, by reason of the unity of subsistent essence. (SCG, IV, 14, 14)

The unity of the essence does not consist, as with people collectively, in the sharing of the same *kind* or *species,* in the manner of a universal with many instances, but in being the very same particular instance. The problem is with the role of the subsistent relations: how can relations within one substantial thing generate three individuals that can be truly categorized as persons?

This apparent contradiction makes sense if one takes as one's model the nature of the self, and this is what Aquinas does. He argues that, in thinking, something is generated which does not require that there be something which receives the thought, in contrast with what is the case

when someone produces a child, or a table, in which case there must be some matter that receives that which forms of the new entity. A thought is produced by a thinker, but it is not *made out of* something separate. The logic behind Aquinas's argument is, I think, this. If an object of kind *F* can generate something distinct from it of the same kind, but not by imprinting *F-ness* in some separate matter, then what is generated is not a different instance of *F* and so is substantially the same.

It might be helpful here to consider Aquinas's account of angels. Because they lack matter, each is a subsistent form and so they must all be of different species in order to be different individuals. This can prompt the thought that if (*per impossibile* in the case of angels) a subsistent form could replicate itself the result would be a complex which was, in a sense, two things and in a sense not.

The first worry that may arise with this approach is that it rests too much on the Aristotelian idea that it is matter that individuates, so that, if there is no matter involved, there cannot be two instances of the same form *qua* universal involved. This is, indeed, a very controversial principle, but I think we can defend Aquinas's overall position without relying on this principle, by emphasizing the analogy with thought. It is true that the thinker, or intellect, creates thoughts out of himself, or itself, but not out of any alien matter. But the problem will now be that the thought is not sufficiently 'other' from the thinker for it to be parallel to the case of a generated *person*. How can we combine the insight we can gain from the analogy with thought with the comparison with 'impossible twin angels'? The former helps explain the possibility of the generation of one thing from another without their being different substances, whilst the latter offers a model of the completeness of each individual so generated.

The difference between the Trinity and the human self becomes relevant here. There is a very limited sense in which we are a kind of trinity. There is a sense in which we are present in each of the three moments – in the simple self, in the outward expression of ourselves and in the process of moving from the one to the other. And we do have a kind of internal dialogue within ourselves between these moments.

I am present in the simple self, in the complex manifestations of my life and thinking and in the process from one to the other, but not wholly in any of them alone. But because we are finite creatures operating within time, our whole nature is never communicated between these *personae*, so to speak. I do show my nature in what I think and do, but only, so to

speak, in dribs and drabs. I think that it is reasonable to hypothesize that this is a feature of embodiment. We are dependent both on the brain and on the phenomenal realm, in the form of images and words, to work out and express our thoughts. This ensures that our whole nature cannot be articulated at once. (For an attempted account of embodiment which tries to explain these dependencies, see Robinson 1989.)

It is different in the case of God. What God shows forth in uttering the Word and in expressing His love (or will – the analogy varies) is always and eternally His full essence. So the very same individual essence has three complete expressions. Everything that is the Divine essence is eternally expressed in the Word and is contained in the Spirit that represents their dynamic link. This is why they are not simply *actions* of the Father, but forms of the Divine essence. In our case they are expressions of our nature, not communications of it whole.

VIII. CONCLUSION

The account I have tried to develop can be taken on a variety of levels. Many mainstream philosophers, from Descartes to Chisholm, have defended the view that the self is a simple entity, and they therefore face the question of how this squares with the plurality of our mental features. I have tried to suggest how we might understand this. But, in the course of so doing I've drawn on the neo-Platonic account of the One and *Nous,* linked by the process of emanation and return. Finally, I compare this to the Christian doctrine of the Trinity. Our essential but finite and dependent simplicity images the absolute transcendent unity of the Father, our stumbling attempts at embodied rational self-expression parodies the perfect rational self understanding of the *logos*, and the creativity that ties them together in us palely images the role of the Holy Spirit. We are thus shadows and images of the Trinity as a whole, but, according to orthodox Christian doctrine, if these features in us are to be something better than a vain reflection of our Maker, they must somehow be incorporated in the their origin and source.[3]

[3] Acknowledgment: This paper was originally presented in Munich, at a conference for the Analytic Theology Project, generously funded by the John Templeton Foundation.

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HYLOMORPHISM AND RESURRECTION

WILLIAM JAWORSKI

Fordham University

Abstract. Hylomorphism provides an attractive framework for addressing issues in philosophical anthropology. After describing a hylomorphic theory that dovetails with current work in philosophy of mind and in scientific disciplines such as biology and neuroscience, I discuss how this theory meshes with Christian eschatology, the doctrine of resurrection in particular.

THE HYLOMORPHIC WORLDVIEW

Hylomorphism claims that structure, organization, form, arrangement, order, or configuration is a basic ontological and explanatory principle. Some individuals – living things, for instance – consist of materials that are structured or organized in various ways. You and I are not mere quantities of fundamental physical materials; we are quantities of fundamental physical materials with a certain organization or structure. That structure is responsible for you and I being humans as opposed to dogs or rocks, and it is responsible for you and I having the particular developmental, metabolic, reproductive, perceptive, and cognitive capacities we have.

I'll illustrate this basic idea with three examples. The first I'll call the squashing example. Suppose we put Godehard in a strong bag – a very strong bag since we want to ensure that nothing leaks out when we squash him with several tons of force. Before the squashing the contents of the bag include one human being; after they include none. In addition, before the squashing the contents of the bag can think, feel, and act, but after the squashing they can't.

What explains these differences in the contents of the bag pre-squashing and post-squashing? The physical materials (whether particles or stuffs) remain the same – none of them leaked out. Intuitively we want

to say that what changed was the way those materials were structured or organized. That organization or structure was responsible for there being a human before the squashing, and for that human having the capacities it had. Once that structure was destroyed, there no longer was a human with those capacities. Structure is thus a basic ontological principle; it concerns what things there are. And it is also a basic explanatory principle; it concerns what things can do.

A second example introduces hylomorphism by contrasting it with a more familiar view: physicalism. Physicalism claims that everything is physical; everything can be exhaustively described and explained in principle by physics. To appreciate what this means, let's imagine a character: the super physicist, a being that possesses complete physical knowledge of the universe. The super physicist has complete knowledge of all the fundamental physical entities in the universe: what they are, what properties they have, what relations they stand in, and what laws govern their behaviour. Imagine, however, that the super physicist lacks a psychological conceptual framework and even a biological one. It lacks the perceptual and conceptual tools to distinguish living things from nonliving ones or mental beings from nonmental ones. The concepts of life, perception, desire, belief, money, and so on are completely beyond its ken. As a result, when it describes the universe, its descriptions are framed solely in the vocabulary of physics – solely in terms of the characteristics of fundamental physical particles or stuffs. Because the super physicist does not have the concepts to distinguish living things from nonliving ones or mental beings from nonmental ones, its descriptions make no mention of plants, animals, or people, nor do they mention any distinctive biological or psychological activities such as growth, reproduction, perception, or belief. Nor can the super physicist recognize the distinctions these things mark in the natural world. It recognizes no difference between Godehard and the surrounding air, for instance. From its standpoint, there is just a continuous curtain of fundamental physical particles or stuffs.

Many people would be inclined to say that the super physicist's descriptions of the world would be missing some very important things: the distinction between life and nonlife or between intelligence and nonintelligence, not to mention the stock of things that tend to occupy most people's minds: money, food, sex, family, health, professional success. If physicalism is true, however, the super physicist's description misses nothing. Since everything can be exhaustively described and explained by

physics, the super physicist's descriptions of the universe are complete as they stand. If you and I describe the universe in ways that recognize the distinctions between living things and nonliving ones or mental beings and nonmental ones, that is a comment not necessarily about what the universe contains but about how we go about describing it.

Hylomorphists disagree. In particular, they claim the super physicist misses the variety of ways physical materials are structured or organized in the natural world – ways that mark the difference between living and nonliving, mental and nonmental; that distinguish Godehard from the surrounding air, and that confer on the particles or stuffs located exactly where he is the unity that makes him a distinctive whole.

A third way of illustrating the basic hylomorphic idea of structure involves the empirical appeals to structure we find in sciences like biology and biological subdisciplines such as neuroscience. Scientists frequently appeal to notions of structure, order, or arrangement. At least some of these appeals appear to be ontologically serious; that is, they appear to posit structure as a real ontological and explanatory principle. Here is an example taken from a popular college-level biology textbook – note the references to organization, order, arrangement, and related notions:

> Life is highly organized into a hierarchy of structural levels, with each level building on the levels below it ... Biological order exists at all levels ... [A]toms ... are ordered into complex biological molecules ... the molecules of life are arranged into minute structures called organelles, which are in turn the components of cells. Cells are [in turn] subunits of organisms ... The organism we recognize as an animal or plant is not a random collection of individual cells, but a multicellular cooperative ... Identifying biological organization at its many levels is fundamental to the study of life ... With each step upward in the hierarchy of biological order, novel properties emerge that were not present at the simpler levels of organization ... A molecule such as a protein has attributes not exhibited by any of its component atoms, and a cell is certainly much more than a bag of molecules. If the intricate organization of the human brain is disrupted by a head injury, that organ will cease to function properly ... And an organism is a living whole greater than the sum of its parts ... [W]e cannot fully explain a higher level of order by breaking it down into its parts (Campbell 1996: 2-4).

This passage suggests that organization, order, structure, or arrangement is a real feature of things, one that plays an important role in them being

the kinds of things they are, and in explaining the kinds of things they can do. It suggests, in other words, that structure is a real ontological and explanatory principle.

This idea is echoed by other scientists and by some philosophers.[1] The biologist Ernst Mayr is an example:

> All biologists ... recognize no supernatural or immaterial forces, but only such that are physico-chemical ... [T]he modern biologist rejects in any form whatsoever the notion that a 'vital force' exists in living organisms which does not obey the laws of physics ... All processes in organisms ... strictly obey these physical laws ... But [biologists] do not accept the naïve mechanistic explanation of the seventeenth century and disagree with the statement that animals are 'nothing but' machines ... Where organisms differ from inanimate matter is in the organization of their systems ... [O]rganisms have many characteristics that are without parallel in the world of inanimate objects. The explanatory equipment of the physical sciences is insufficient to explain complex living systems (Mayr 1982: 2, 52).

Empirical appeals to structure of the foregoing sort provide a way of understanding what hylomorphism claims.

Many philosophers find empirical appeals to structure like these obvious and unremarkable: How could anyone question (and hence why would anyone bother to mention) that structure factors into things? But the notion of structure does not come for free – at least not if we endorse what I'll call 'ontological naturalism', a position that conjoins a Quinean view of ontological commitment with a broad empiricism: We are committed to all the entities postulated by our best descriptions and explanations of reality, and those descriptions and explanations derive from empirical sources, paradigmatically the natural and social sciences. If we accept ontological naturalism, appeals to structure like the foregoing make a serious ontological demand. We can try to satisfy it in at least four different ways.

Three of these ways claim, contrary to what the foregoing quotes suggest, that everything can be exhaustively described and explained without appealing to structure, that appeals to structure can either be eliminated, reduced, or paraphrased so that we need not in principle

[1] Examples include J.B.S. Haldane (1947: 54-56), Gerd Sommerhoff (1969: 147-148), J.Z. Young (1971: 86-87), Jonathan Miller (1982: 140-141), Michael Ruse (2001: 79), John Locke (1959: Book II, Chapter 27, Sections 5-9), and John Dewey (1958: 253-8).

speak as if structure really exists. Daniel Dennett (1991) has a view of this sort; he claims that we postulate patterns or structures purely as a matter of explanatory or predictive convenience.[2]

Unlike views of this sort, hylomorphism takes claims about structure in the sciences at face value. It takes structure to be a real, irreducible ontological and explanatory factor – a view I'll call structure realism.[3]

Structure realism by itself is compatible with physicalism. It could turn out that there are structures, but that the only structures that exist are those postulated by physics. Structure realism is also compatible with views like substance dualism.[4] Yet neither of these is the kind of view expressed in the foregoing passages from biologists. That view is committed to the claim that we are organisms, contrary to substance dualism. And it is committed to the claim that there are basic structures other than those postulated by physics, contrary to physicalism. It distinguishes what physics by itself can describe and explain from what appeals to biological, or psychological, or social structure enable us to describe and explain. Because of this, its exponents often claim that organisms are not mere machines, as Mayr puts it, but have characteristics – emergent properties, to use Campbell's term – not found among nonliving things, and so they conclude that the explanatory apparatus of physics is insufficient to describe and explain living behaviour; it gets at 'only half the truth', as the cyberneticist Gerd Sommerhoff (1969) puts it. What it misses are the things that can only be described and explained

[2] This is also a view Mark Johnston describes (and rejects): 'When certain items come to stand in certain relations ... there then comes to be some further item which has those original items as parts. That is ... how we have such complex items as model airplanes, trains, and molecules ... [J]ust why are those relations ... "item-generators", while other relations ... seem impotent in the production of new items?... Could it just be a projection of our idiosyncratic way of experiencing and conceptualizing reality, so that things considered in themselves are not complex, but are so only relative to a scheme of clumping or bundling? Somehow, I doubt it' (Johnston 2006: 652).

[3] This should not be confused with the view Ladyman and Ross (2007) call 'structural realism'. Their view rejects commonsense things, and takes a stance on the empirical contents of physics. Structure realism does neither.

[4] Substance dualism claims that persons, such as you and I, are distinct from human organisms; we are nonphysical entities. Suppose that substance dualism is true, and further, that human organisms consist of physical materials that are structured a certain way. The upshot is a substance dualistic view that is committed to hylomorphism. Structure is a basic principle that factors into descriptions of what human organisms are and what they can do; it simply doesn't factor into descriptions of what we, nonphysical persons, are and what we can do.

by appeal to structure at a biological, psychological, or social level. I'll reserve the term 'hylomorphism' for a structure realist view of this sort.

Since the label 'hylomorphism' is not new it's worth mentioning that the view I have in mind differs from those of Kit Fine (1999), Mark Johnston (2006), David Oderberg (2007), and Kathryn Koslicki (2008). Moreover, I cannot vouch for its similarities to the views of Aristotle, Aquinas, Leibniz, Merleau-Ponty, or any of the other philosophers whose views have been labelled 'hylomorphic'.[5] It is nevertheless very similar to the view Montgomery Furth (1978) attributes to Aristotle.[6]

The foregoing passages from biologists suggest a hylomorphic view with at least five characteristics. First, hylomorphism takes the distinction between living things and nonliving ones (and also, as we'll see, between mental beings and nonmental ones) to be grounded in their organization or structure.[7] These distinctions are due not to the entities that compose them, but to the way those entities are structured or organized.

Second, living things such as human beings are exhaustively decomposable into particles or materials of the sort described by physics, the very same particles or materials found in nonliving things. Someone

[5] For Aristotle's view see Physics, Book II, Chapters 1-3, and On the Soul, as well as Nussbaum and Putnam (1992). For Aquinas' view see Summa Theologiae Ia, Questions 75-86, and Leftow (2001); for more on Leibniz see Garber (1985) and Smith (2002), and see Merleau-Ponty (2002) for his view.

[6] '[The world] is an Empedoclean, finite three-dimensional mass, entirely filled with the four elements ... [W]e now observe that scattered through this three-dimensional mass there are innumerable knots, regions where the matter is elaborately and intricately worked up into an organic unity ... highly convoluted but relatively stable eddies in the general commingling-and-separation [of elements] ... Aristotle thinks the "principle" called "form" must be brought in on top of the Empedoclean basis, to explain the stability of the knots and the complex specific character that they manifest as long as they last ... a material individual (i.e., animal) is ... a semipermanent warp or bend informing the local matter, which the matter flows through at various rates during the organism's life history ... while the form imposes the continuity ...' (Furth 1978: 638-9). One difference between the view I have in mind and Aristotle's is that the view I have in mind is not committed to a specific account of fundamental physical entities. It does not claim that they are Empedoclean stuffs, as Aristotle's account does, but is happy to leave it to physicists to determine what they are.

[7] Hylomorphism is thus at odds with views that ground these distinctions in the particles or materials that compose things. Democritus, for instance, claimed that the differences between living things and nonliving ones could be explained by a greater proportion of spherical atoms. More recently, Roger Penrose has suggested that the difference between conscious beings and nonconscious ones can be explained by differences among their quantum-level components.

could endorse a hylomorphic view according to which living or mental beings have nonphysical components. Aquinas, for instance, may have endorsed a view of this sort. The hylomorphic view I have in mind, however, rejects this idea. It is committed instead to the empirical claim expressed in the quote from Mayr: living, mental beings such as humans have only physical components; they are exhaustively decomposable into the same fundamental physical materials found in nonliving things.

Third, because organisms consist of both structures and materials that are structured, hylomorphists claim that a complete account of living behaviour must appeal to both. This claim has at least two important implications. First, it implies a pluralism of properties.

On the hylomorphic view, living things have properties of at least two sorts: properties that are due to their structures (or their integration into individuals with structures), and properties that are due to their materials alone independent of the way those materials are structured. Consider an example. Subatomic particles, atoms, and molecules have physical properties such as mass irrespective of their surroundings. Under the right conditions, however, they can contribute to the activities of living things. Nucleic acids, hormones, and neural transmitters are examples; they are genes, growth factors, and metabolic and behavioural regulators. Each admits of two types of descriptions which express two types of properties. They can be described organically, in terms of the contributions they make to a structured system, but they are also independently describable in nonorganic, non-contribution-oriented terms. Descriptions of the former, organic sort express the properties characteristic of organisms and their parts. Descriptions of the latter, nonorganic sort express the properties things possess independent of their integration into organic wholes. A strand of DNA might always have various atomic or fundamental physical properties regardless of its environment, but it acquires new properties when it is integrated into a cell and begins making contributions to the cell's activities. It becomes a gene, a part of the cell that plays a role in, for instance, protein synthesis.

Some people call these new properties 'emergent properties' (Campbell in the earlier quote is an example). Emergent properties have several characteristics (Jaworski 2011). I won't describe them in detail here; I'll simply note in passing that included here there is no condition that requires emergent properties to be produced or generated by lower-level things. That is because hylomorphists, unlike classic emergentists, deny that this is the case. Structure, they say, is basic. It is not generated

by anything. We can, as an empirical matter of fact, they say, describe how particular structures came to be in place: my distinctively human structure came initially to inform various biotic materials because of my parents' reproductive activity. What hylomorphists deny is that it would be legitimate to ask what it currently is that is responsible for continually generating the structure I have. Structures are not generated by the things they structure.

There are, then, properties that depend on something's structure and properties that things possess independent of a broader structure. According to hylomorphists, properties of both sorts make causal or explanatory contributions to the things having them. These contributions reflect a second implication of the idea that a complete account of living behaviour must appeal to both structure and materials that are structured, namely, causal pluralism: there are different kinds of causal or explanatory factors, and different kinds of causal or explanatory relations.

A car crash, for instance, involves the convergence of numerous factors – faulty brakes, insufficient roadway grading, inadequate signage, and alcohol. The ways these factors contribute to the crash vary. We can understand how the brakes and the roadway contribute purely by appeal to physics. Understanding how the alcohol contributes, by contrast – its effects on, say, perception and reaction time – requires the conceptual resources of biology, and understanding how the inadequate signage contributes requires the conceptual resources of psychology – resources for understanding how animals like us can use symbolic systems and modulate their behaviour in light of the information those systems convey.

One way of giving content to the idea that there are different kinds of causes and causal relations is to view causal relations as explanatory ones, and to view explanations as answers to certain kinds of questions. Aristotle defended an account of causation and explanation along these lines. A cause (*aitia*), he said, was an answer to the question *dia ti*: 'Why?' or 'On account of what?' (Physics 194b16-20). Bas van Fraassen has made a similar claim: 'An explanation', he says, 'is an answer to a why-question' (1980: 134). Elsewhere I've developed this idea not just with regard to why-questions but also how-questions since many how-questions are requests for explanation as well (Jaworski 2009). Examining the logic of why- and how-questions can thus provide a starting point for cataloguing the range of explanatory factors and relations we seek to understand when we ask 'Why?' or 'How?'.

A quick illustration: van Fraassen has shown that explanation is contrastive. When we ask why something happened – e.g. 'Why did Adam eat the apple?' – it remains unclear exactly what we are saying: Do we mean 'Why did Adam eat *the apple* (in contrast to the papaya, or the mango, or ...)?'. Or do we mean 'Why did Adam *eat* the apple (in contrast to having thrown it away, or having done something else with it)?' Or do we mean why did *Adam* eat the apple (in contrast to the serpent or someone else)? A similar point comes out with how-questions.

'How did Judith kill Holofernes?'

Answer A: 'With a mixture of revulsion and determination.'

Answer B: 'With a mixture of bile and snake venom.'

Answer C: 'With a mixture of seduction and cunning.'

The first answer supplies the manner; the second supplies the method, and the third supplies the means. Manners, methods, and means are among the things we ask about with how-questions. We also ask about mechanisms.

How-questions of mechanism request what some philosophers of neuroscience call mechanistic explanations (Bechtel 2007). They explain how a system is able to perform an activity by describing how the activities of its subsystems contribute to it. (I'll return to this idea momentarily when I discuss functional analysis, the method whereby empirical researchers discover mechanisms.)

So on this view causes and causal relations are explanatory. By examining the range of ways we explain things in our pedestrian dealings and in our scientific practices we can start compiling an inventory of the kinds of causes and causal relations there are.

A fourth feature of the hylomorphic view is this: Because living things are composed of fundamental physical entities, their behaviour never violates fundamental physical laws, the laws governing their fundamental physical constituents.

Fifth, hylomorphism's view of structure is closely related to an account of composition or parthood. According to hylomorphists, lower-level entities such as atoms and electrons qualify as parts of higher-level entities such as organisms by virtue of contributing to their activities. An electron is a part of me, for instance, exactly if it contributes to my overall functioning – if, say, it contributes to depolarizing one of my cellular membranes or plays a role in the metabolic processes of one of my cells. Consider again the strand of DNA. When it is integrated into a cell, it makes a goal-directed contribution to the activity of the whole.

As a result, it gains the status of an organic part. It and parts like it are literally organ-ized in living things: they become organs.

On the hylomorphic view of composition, then, parts contribute to the activities of the wholes they compose, and different parts of a whole contribute to its activities in different ways.

Peter van Inwagen has recently defended a similar account of composition. According to van Inwagen, something qualifies as a part if and only if it is 'caught up in a life', an expression he borrows from the biologist J.Z. Young. He explains with an example:

> Alice drinks a cup of tea in which a lump of sugar has been dissolved. A certain carbon atom ... is carried along ... by Alice's digestive system to the intestine. It passes through the intestinal wall and into the bloodstream, whence it is carried to the biceps muscle of Alice's left arm. There it is oxidized in several indirect stages (yielding ... energy ... for muscular contraction) and is finally carried by Alice's circulatory system to her lungs and ... breathed out as a part of a carbon dioxide molecule ... Here we have a case in which a thing, the carbon atom, was ... caught up in the life of an organism, Alice. It is ... a case in which a thing became however briefly, a part of a larger thing when it was a part of nothing before or after ... (Van Inwagen: 94-5)

Hylomorphism's account of composition can be understood as a way of elaborating van Inwagen's basic idea: to be caught up in the life of something is to make a goal-directed contribution to its activities, where it is up to biologists, neuroscientists, and other empirical investigators to describe the nature of this goal-directed contribution.

An account of composition like this has also been endorsed by several philosophers of biology including William Bechtel, a philosopher of neuroscience. According to Bechtel, something qualifies as a component part of a complex system – what he calls a mechanism – only if it performs an operation that contributes to the activity of the whole.[8]

[8] The hylomorphic view of parts and wholes assumes a specific kind of meta-mereology. Kathrin Koslicki describes it this way: 'I take the mereologist's job to be to devise an appropriate conception of parthood and composition which accurately reflects the conditions of existence, spatio-temporal location and part/whole structure of those objects to which we take ourselves to be already committed as part of the presupposed scientifically informed, commonsense ontology. The question of which kinds [of objects] there are I take to be ... answered [not] by the mereologist proper, but by the ontologist at large, in conjunction with ... science and common sense, which ... have something to contribute to the question, "What is there?" ... [M]ereology ... does not settle matters of

Philosophers of biology and neuroscience, like Bechtel, have been attracted to a view of composition along these lines because this is the type of view suggested by actual work in biology and neuroscience – both the methods of those sciences and the kinds of explanations they employ. Of central importance is a method of scientific investigation philosophers have sometimes called 'functional analysis' (other names include 'mechanical decomposition' or 'functional decomposition'). Biologists, cognitive scientists, engineers, and others frequently employ this method to understand how complex systems operate. They analyze the activities of those systems into simpler subactivities performed by simpler subsystems.[9]

Consider a complex human activity such as running. Functional analysis reveals that running involves among other things a circulatory subsystem that is responsible for supplying oxygenated blood to the muscles. Analysis of that subsystem reveals that it has a component responsible for pumping the blood – a heart. Analysis of the heart's pumping activity shows that it is composed of muscle tissues that undergo frequent contraction and relaxation, and these activities can be analyzed into the subactivities of various cells. Analyses of these subactivities reveal the operation of various organelles that compose the cell and that are composed in turn of complex molecules. We can continue to iterate the process until we reach a level at which no further functional analysis is possible. If, for instance, electrons contribute to the activities of things by virtue of having negative charges, and they have those charges not on account of the activities of some yet lower-level subsystems, but as an unanalyzable matter of fact, then no further functional analysis is possible. We reach a foundational level of functional parts.

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ontological commitment; rather, it presupposes them to be resolved elsewhere within metaphysics or outside of philosophy altogether ... [This] approach differs from the standard conception as well as from Fine's theory of embodiments ... which view the mereologist as a specialized sort of ontologist, whose job ... is precisely to tell us what mereologically complex objects (if any) the world contains ... [B]y presupposing that the question, "What mereologically complex objects (if any) are there?" is descriptively settled in the course of arriving at a scientifically and commonsensically acceptable ontology of kinds, the present approach assigns to the mereologist proper a more limited set of responsibilities ... characteriz[ing] ... those mereologically complex entities whose existence is already confirmed by independent evidence' (2008: 171).

[9] See, for instance, Fodor (1968), Cummins (1975), Dennett (1978), Lycan (1987 Chapter 4), Bechtel (2007), and Craver (2007: Chapter 5).

Functional analysis provides a way of supplying empirical content to the idea that parts contribute to the activities of their respective wholes. If we want to know how a part contributes to the activity of a whole, hylomorphism leaves it to the relevant empirical disciplines to tell us.

Two clarifications are in order about functional analysis. First, a remark about the name: 'Functional analysis' is a name that has been used by philosophers, but biologists often call the method 'reduction'. This notion of reduction is different from the notion typically discussed in connection with the philosophy of mind (Jaworski 2011). Reduction in the philosophy of mind typically concerns the ability of one conceptual framework to take over the descriptive and explanatory roles of another. To claim that, say, psychology is reducible to neuroscience implies that it is possible in principle for neuroscience to take over all the descriptive and explanatory roles psychology currently plays. Any description or explanation we would normally express in psychological terms could be rewritten in principle solely in neuroscientific terms. If this kind of rewriting were possible, then neuroscience would be capable of taking over all the descriptive and explanatory roles psychology plays. Psychology would be reducible to neuroscience.

By contrast, when biologists speak of reduction they are typically not speaking of the relation between conceptual frameworks I've just described, but of a method for studying complex systems – what I've been calling 'functional analysis'. Here is an example taken from the biology textbook quoted earlier:

> Reductionism – reducing complex systems to simpler components that are more manageable to study – is a powerful strategy in biology ... Biology balances the reductionist strategy with the longer-range objective of understanding how the parts of cells, organisms, and higher levels of order, such as ecosystems, are functionally integrated (Campbell, et al. 1999: 4).

The authors clearly have in mind what they call a research strategy – a method for studying complex things. A commitment to employing this method does not imply a commitment to reduction in the philosophical sense. It might be impossible for neuroscience to take over the descriptive and explanatory roles of psychological discourse even though it is possible and even necessary to use functional analysis to understand how humans can engage in psychological activities.[11] In fact, this is precisely what hylomorphists claim. Explanations of living behaviour are not

reducible to descriptions of the lower-level mechanisms revealed by functional analysis because of the distinctive explanatory contributions a living thing's biological, psychological, and social structures make.

Why should we believe that hylomorphists are right about higher-level structures making explanatory contributions beyond the contributions made by their lower-level parts? Hylomorphists insist that this is supported by empirical considerations. As an empirical matter of fact, they say, higher-level structural discourse provides effective descriptions and explanations independent of any claims about reducibility. Consider Bechtel's observations about descriptions and explanations in psychology and other special sciences:

> [The] mechanistic explanations [provided by functional analysis] are in fact compatible with a robust sense of autonomy for psychology and other special sciences ... In virtue of being organized systems, mechanisms do things beyond what their components do ... Organization itself is not something inherent in the parts. Accordingly, investigators who already understand in detail how the parts behave are often surprised by what happens when they are organized in particular ways ... [T]he organization of the components typically integrates them into an entity that has an identity of its own. As a result, organized mechanisms become the focus of relatively autonomous disciplines ... This autonomy maintains that psychology and other special sciences study phenomena that are outside the scope of more basic sciences but which determine the conditions under which lower-level components interact. In contrast, the lower-level inquiries focus on how the components of mechanisms operate when in those conditions ... The fact that mechanisms perform different activities than do their parts manifests itself in the fact that the activities of whole mechanisms are typically described in [a] different vocabulary than are component operations. Traditional accounts of theory reduction implicitly recognized this fact by requiring bridge principles to connect the different vocabularies used in different sciences, but little notice was given as to why different sciences employ different vocabularies. The vocabulary used in each science describes different types of entities and different operations – one describes the parts and what they do, whereas another describes the whole system and what it does (2007: 174, 185-186).

[10] John Bickle (2003) refers to the philosophical sense of reduction as 'ruthless reduction'; Bechtel (2007: 173-4) and others have distinguished this from reduction in the methodological sense – what we are calling 'functional analysis'.

If Bechtel's observations of scientific practice are correct, higher-level empirical disciplines and lower-level ones have different subject-matters on account of the ways things are organized or structured. Because higher- and lower-level disciplines deal with different subject-matters, they have different vocabularies, and provide different kinds of explanations, and these different vocabularies and explanations make higher-level disciplines autonomous – irreducible to lower-level disciplines in the traditional philosophical sense. In light of these kinds of observations about the autonomy of higher-level sciences, and the role structure or organization plays in explaining it, hylomorphists insist that the burden of proof is on their opponents to establish that claims about biological, psychological, or social structures are reducible to claims about things that lack them.

A second note about functional analysis: the notion of function that gives functional analysis its name is different from the notion of function discussed in connection with functionalism in philosophy of mind. According to classic functionalist theories of mind, mental states are postulates of abstract descriptions framed in terms analogous to those used in computer science – descriptions that ignore the physical details of a system, and focus simply on a narrow profile of its features: inputs to it, outputs from it, and internal states that correlate the two.[11]

When it comes to functional analysis, by contrast, the notion of a function is not abstract in this way, and it has a teleological dimension: subsystems contribute to the activities of the wholes to which they belong, and that contribution is their reason or 'purpose' for belonging to the system: the purpose of the spark plug is to ignite the fuel; the purpose of the heart is to pump the blood, and so on.

Teleological functionalism is a type of functionalist theory that appeals to a teleological notion of function along these lines as well. Lycan's

[11] See Hilary Putnam's 'The Mental Life of Some Machines', 'The Nature of Mental States', and 'Robots: Machines or Artificially Created Life?', in Putnam (1975). According to Putnam's original proposal, psychological descriptions are abstract descriptions that postulate relations among sensory inputs, motor outputs, and internal mental states. The only significant difference between Turing machine descriptions and psychological descriptions, Putnam suggested, was that psychological inputs, outputs, and internal states were related to each other probabilistically not deterministically. If, for instance, Eleanor believes there are exactly eight planets in our solar system, and she receives the auditory input, 'Do you believe there are exactly eight planets in our solar system?', then she will produce the verbal output, 'Yes', not with a deterministic probability of 1, but with a probability between 1 and 0.

(1987: Chapter 4) homunctionalism is an example.[12] Like functionalist theories of all sorts, however, teleological functionalism claims that higher-level discourse is abstract discourse; higher-level properties are higher-order properties – logical constructions that quantify over lower-order properties. Saying that something has a belief, for instance, amounts merely to saying that it has some internal state that correlates inputs with outputs in appropriate ways. Hylomorphists reject this understanding of higher-level properties. They claim that higher-level properties are first-order properties in their own right. So although teleological functionalists and hylomorphists both claim that a system's components contribute teleologically to its overall operation, they disagree about how the notion of contribution is to be understood. Teleological functionalists say that descriptions of higher-level phenomena are simply abstract descriptions of lower-level occurrences. Hylomorphists deny this. Higher-level descriptions correspond to distinctive natural structures, ones that factor into descriptions and explanations of living behaviour in ways that cannot be eliminated, reduced to, or paraphrased in favour of lower-level descriptions and explanations.

Let this suffice for a description of the general hylomorphic view. I've discussed an argument for it in detail elsewhere (Jaworski 2011: Chapter 10; cf. Ellis 2002: 173). Rather than rehearsing it here, I want to consider a hylomorphic approach to mental capacities – what I will call a hylomorphic theory of mind. It takes the biological notion of structure we've been focusing on and extends it into the psychological domain.

PATTERNS OF BEHAVIOUR: A HYLOMORPHIC THEORY OF MIND

The grail of philosophy of mind for over 40 years has been an acceptable mind-body theory that is both antireductive and broadly naturalistic – a theory that affirms that we are physical beings with physical components, but that also denies that biology, psychology, and other special sciences are reducible to physics. Theories of this sort include various forms of nonreductive physicalism and emergentism. Hylomorphism is a theory of this sort, but it rejects both physicalism and some of the central tenets of emergentism. I'll briefly describe the basic idea behind a hylomorphic theory of mind before turning to the question of whether hylomorphism is compatible with the doctrine of resurrection.

[12] See also Sober (1985: Section 3).

When people think of structures they often think of what we might call mechanical structures or mechanisms: spatial arrangements among a thing's parts that enable those parts to interact in novel ways – ways that confer on the whole capacities not had by the parts taken in isolation. Hylomorphists acknowledge the existence of mechanisms, but they insist that mechanical structures are not the only kinds of structures that exist. Biological organization also comprises patterns of behaviour – the characteristic ways that living things interact with each other and their environments.

Living things do not act at random. Birds build nests not webs, and lay eggs not acorns. Humans grow lungs instead of gills, and skin instead of scales. Squirrels bury nuts, and are active during the day; raccoons come out at night, and rummage through our garbage. All of these are examples of patterns in living behaviour. Just as the parts of living things are not assembled at random but have distinctive structures, so too the behaviour of living things is characterized by distinctive patterns of social and environmental interaction.

Some of these patterns involve the ways organisms acquire and utilize energy from the environment to maintain their distinctive structures against entropy. Others involve their abilities to respond to and interact with features of their environments – their capacities for sensation and movement, for instance. Yet other patterns involve states of motivation or arousal such as hunger, thirst, fear, anger, and enjoyment; and still others involve cognitive capacities such as memory, learning, reasoning, and problem solving.

According to hylomorphists, the patterns we find in the living world include mental phenomena. Thought, feeling, perception, and action are all patterns of social and environmental interaction. Some we describe in perceptual or sensory terms: seeing, hearing, tasting, feeling. Others are more complex and incorporate perceptual or sensory patterns of these sorts. They include believing, wanting, knowing, and remembering. These higher-level patterns, moreover, are often integrated into behavioural patterns that are more complex still such as intellectual habits or personality or character traits. Consider an example: The interactions between a young child and the candy hidden in the cupboard are at first almost completely unstructured – or more precisely, they are structured in ways we can describe and explain merely by appeal to physics: the child and the candy exert a gravitational influence on each other, for instance. But the interactions between the child and the candy become

structured in more complex ways once the cupboard door is opened. We describe these ways using a psychological vocabulary: we say the child wants the candy, is trying to get it, and remembers that it is there once its mother has re-closed the cupboard door. The same is true of the child's interactions with its mother and with other people: it is chagrined and frustrated by her refusal to give the candy, but knows that its father is more pliable. Similarly, the father's pliability and the mother's prudence are also types of complex structured behaviour. They represent broad patterns of choice, decision, thought, feeling, and action with long histories and long-term implications for future behaviour.

The core idea of a hylomorphic theory of mind, then, is that sensations, feelings, thoughts, perceptions, actions, and other psychological phenomena are complex patterns of social and environmental interaction like the patterns just described. They are ways animals like us interact with each other and the environment – ways in which our behaviour is structured or organized. Living things are not just organized assemblages of parts; they are zones of structured activities. These activities include muscular contractions, bodily movements, and other physiological states as lower-level contributing factors, but they also include higher-level interactions with other living things and the environment. Human behaviour in particular comprises biological activities and capacities that are incorporated into patterns of rational interaction, patterns that admit of evaluation in terms of rational, moral, aesthetic, and similar categories. What get structured in these rational ways include the states and subactivities of various organic parts, such as the parts that enable humans to perceive aspects of their social and physical environments and to feel and respond to those features. These forms of engagement and response, and the criteria we use to evaluate them are in part what we refer to and describe when using psychological predicates and terms. On the hylomorphic view, then, we use psychological discourse to describe high-level structured behaviours that have various organic states as lower-level contributing substructures.[13]

[13] The idea that mental phenomena are patterns of social and environmental interaction is liable to remind some readers of behaviourism, and others of Dennett's (1992) real patterns. Elsewhere I've described in detail how hylomorphism differs from these views (Jaworski 2011; Jaworski 2012). Briefly, hylomorphism (of the sort we are considering) rejects physicalism, whereas behaviourism and Dennett do not. In addition, hylomorphists do not conceive of behaviour as narrowly as behaviourists do. According to hylomorphists, behaviour comprises not mere bodily movements

THE COMPATIBILITY OF HYLOMORPHISM AND THE RESURRECTION

Elsewhere I've shown in detail how a hylomorphic framework like the one I've just described is able to solve mind-body problems such as the problem of mental causation, the problem of emergence, and the problem of other minds (Jaworski 2011; Jaworski 2012). My goal here, however, is to explain why such a view is compatible with the doctrine of resurrection. I will call this the 'compatibility thesis'. To frame discussion of the compatibility thesis I will consider an argument against it:

(1) If hylomorphism is true, then I will be raised from the dead only if (a) God can bring it about that some materials have a distinctively human structure, and (b) God can ensure that those structured materials compose me and not someone else. [Premise]

(2) God cannot satisfy conditions (a) and (b) at a time after I die. [Premise]

Therefore, if hylomorphism is true, I will not be raised from the dead.

The inference is valid, so if the premises are true, the compatibility thesis is false. Support for Premise 1 derives from a plausible line of reasoning. If hylomorphism is true, then I am essentially materials with a distinctively human structure. I am, moreover, essentially myself and not someone else. From these claims it follows that at any time at which I exist there must be materials that have a distinctively human structure and that compose me and not someone else at that time. Suppose now that I have been raised from the dead at time t. In that case I must exist at t, for I take it that the idea of resurrection entails that the individual who is raised from dead is I myself and no one else. If hylomorphism is true, this implies that at t there must be materials that have a distinctively human structure and that compose me and no one else. Consequently,

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and gestures, as behaviourists suppose; it comprises social and environmental factors as well. Third, hylomorphists and behaviourists endorse different semantics for psychological expressions. According to behaviourists, psychological expressions operate like abbreviations for longer physical descriptions of bodily movements and states. According to hylomorphists, by contrast, psychological expressions operate like natural kind terms that refer to patterns of social and environmental interaction, and that get their referents fixed initially by observing those patterns firsthand (Jaworski 2011: 334-339). Hylomorphists thus reject the behaviourist project of analyzing psychological predicates and terms into longer descriptions of actual and potential bodily movements and states. Finally, hylomorphism is committed to structure realism whereas Dennett's view is a variety of structure antirealism. According to him, we postulate patterns simply for predictive and explanatory convenience. For more on the varieties of structure antirealism see Jaworski (2012).

if God is to bring it about that I am raised from the dead at t, God must bring it about that some materials have a distinctively human structure at t and compose me and no one else. It is not enough that God should create a mere duplicate of me. It must be the case that by structuring materials humanwise at t, God brings it about that I am the individual those materials compose.

Premise 2 is supported by another plausible line of reasoning. According to hylomorphists, dying is ceasing to exist. When an organism dies, the materials that compose it lose their distinctively biological structure. But that structure is essential to the organism; the organism cannot exist without it. So on the hylomorphic view organisms cease to exist when they die. But I am a human organism on the hylomorphic view; I am essentially materials with a distinctively human structure. Consequently, if I lose that distinctively human structure, then I will cease to exist, and this is precisely what will happen when I die. Now, say critics of the compatibility thesis, if something ceases to exist at a time, then it is metaphysically impossible for it to exist again at a later time. Let us call this premise the 're-existence restriction'. From the re-existence restriction it follows that if hylomorphism is true, I cannot exist at a time after I die. But if I cannot exist at a time after I die, then God cannot satisfy conditions (a) and (b) at a time after I die, for it is not within the scope even of God's omnipotence to bring about a metaphysical impossibility. If the re-existence restriction obtains, then God cannot satisfy (a) and (b) at a time after I die any more than God can bring about a married bachelor or a four-sided triangle. It might remain within God's power to satisfy condition (a) by itself. God might certainly be able to bring it about that some materials get structured humanwise in a way that exactly resembles me at a certain time in my life. But what God cannot do if the re-existence restriction obtains is to bring it about that those materials compose me and not merely a replica of me. God cannot satisfy condition (b) at a time after I die, and so God cannot satisfy the conjunction of (a) and (b) at a time after I die.

To defend the compatibility thesis hylomorphists need a response to this argument. The response that I want to consider targets Premise 2. Defenders of the compatibility thesis can look both to undermine the argument for Premise 2 and to argue directly against it. When it comes to the first task, there are at least two strategies they can follow. One strategy argues that the re-existence restriction fails to obtain in the case of resurrection since there are parts of us that continue to exist after we

die. Call this the 'surviving part strategy'. According to one version of it, each of us possesses an immaterial part, a rational soul, which persists after we die. At the resurrection, God reattaches my rational soul to a body, and this ensures that I am the one who is raised and not someone else. Something like this, I take it, is Aquinas' strategy.[14] Unfortunately, this version of the strategy does not appear compatible with the kind of hylomorphism I've described. That kind of hylomorphism claims that we are exhaustively decomposable into fundamental physical materials, something that appears incompatible with the existence of an immaterial part.

Hylomorphists who endorse the surviving part strategy could say one of two things here. First, they could argue that the exhaustive decomposition I described earlier is actually compatible with immaterial parts in the sense postulated by philosophers like Aquinas since there is an equivocation on the term 'part'. Understood in one sense, there are no parts other than those that either are fundamental physical particles or that are exhaustively decomposable into them. But an immaterial soul is not a part in this sense. Koslicki (2008), for instance, distinguishes between formal and material parts. The fundamental physical particles that compose me are material parts, whereas an immaterial soul, as Aquinas understands it, is a formal part.[15] Following this line of reasoning, hylomorphists could argue that the earlier claim that organisms are exhaustively decomposable into fundamental physical particles remains compatible with the existence of immaterial souls, for the earlier claim concerns material parts, whereas the latter concerns formal ones.

Alternatively, hylomorphists who endorse the surviving part strategy could argue that there are material parts of us that persist after we die. Each of us is endowed with a unique physical component, they could say, one that plays the same theoretical role as an immaterial soul, but that does not pose even a prima facie challenge to the claim that we are exhaustively decomposable into physical particles.

A second strategy for undermining the argument for Premise 2 argues against the re-existence restriction directly. Call this the 'gappy existence strategy'. Hershenov (2003), for instance, argues that there are counterexamples to the re-existence restriction. Certain artefacts (some artworks, as well as guns, and watches) can remain numerically the same

[14] See for instance Summa Theologiae Ia, 84-89, and IIIa Supplement, Questions 75-80.

[15] Leftow (2001) provides a useful discussion of what this amounts to for Aquinas.

despite being disassembled and later reassembled. An accused murderer on trial could not argue persuasively that the gun reassembled by police in the courtroom could not be the alleged murder weapon on the grounds that the murder weapon ceased to exist when police disassembled it at the crime scene. The reason we don't accept the accused murderer's argument is that intuitively we tend to think that numerically one and the same gun can be disassembled and later reassembled. Hershenov goes on to argue that people are similar to artefacts like the gun, and so it is plausible to suppose that we too could undergo disassembly at death and later reassembly at the resurrection.

Critics of Hershenov's response might object that his examples are beside the point. Resurrection concerns not artefacts but living things, and living things like us are not analogous to the artefacts Hershenov considers. In particular, living things unlike artefacts persist on account of their lives, on account of the continuous biological activities in which their components are caught up. An argument along these lines is suggested by van Inwagen:

> The atoms of which I am composed occupy at each instant the positions they do because of the operations of certain processes within me (those processes that taken collectively, constitute my being alive) ... [I]f a man ... is totally destroyed (as in the case of cremation) then he can never be reconstituted, for the causal chain has been irrevocably broken. Thus if God collects the atoms that used to constitute the man and 'reassembles' them, they will occupy the positions relative to one another because of God's miracle and not because of the operation of the natural processes that, taken collectively, were the life of the man (1978: 119).

Van Inwagen's reasoning suggests that if God were to reassemble physical particles in a way that exactly resembled me at some time prior to my death, the reassembled individual would not be me since it would not be living my same life; it would not be continuing the same biological activity in which the physical particles that compose me now are currently engaged. Once that activity ceases – at least in the radical way that results from something like cremation – it cannot recommence.[16] But if my life cannot recommence, then I cannot exist again at a time

[16] In his later work van Inwagen states the idea as follows: 'If a life has been disrupted, it can never begin again; any life that is going on after its disruption is not that life' (1990: 147).

after I die, and so I cannot be the individual who is composed of any materials God assembles after my death.

Hershenov tries to meet this type of objection by challenging the necessity of biological continuity for animal existence. Imagine, he says, a human zygote that comes into existence at time t_1 in world w_1 and persists through time t_2. In another possible world, w_2, that same zygote is destroyed an instant after it comes into existence. Its parts are then reassembled at time t_2 in a way that is indistinguishable from the way they are assembled at t_2 in w_1. The intuition we are supposed to have is that there is no relevant difference between the zygote that exists at t_2 in w_1 and the zygote that exists at t_2 in w_2. If that is the case, then biological continuity is irrelevant to the persistence of human organisms, for in both w_1 and w_2 numerically one and the same zygote persists through t_2, yet in w_2 there is no biological continuity since the zygote in w_2 underwent instantaneous destruction. What is true of the zygote, Hershenov continues, is also true of each of us: biological continuity is not necessary for our persistence. Consequently, even if I am utterly destroyed when I die, it is still metaphysically possible for God to reassemble my parts so that the resulting individual is I myself and not a mere replica.

The problem critics are likely to have with this argument is that it appears covertly question-begging: someone is not likely to have Hershenov's intuition about organisms, zygotic or otherwise, unless he or she already accepts Hershenov's conclusion; that is, unless he or she already believes that biological continuity is not necessary for one and the same organism to persist. Someone like van Inwagen who thinks to the contrary that biological continuity is necessary for organic persistence will think that Hershenov's intuition is exactly wrong: in w_2 it is not numerically the same zygote that exists at both t_1 and t_2. For this reason defenders of the compatibility thesis might try a response different from Hershenov's.

An alternative way of responding to van Inwagen's argument for the re-existence restriction does not look to challenge the necessity of biological continuity for organic persistence, nor does it depend on analogies between artefacts and living things. It instead focuses on events, and on the possibility that one and the same event can cease and then recommence at a later time.

A sporting event might be suspended on account of the weather. The activities of the coaches, players, and spectators that constitute the event all cease to occur, and in that sense the event itself ceases to exist. The

same event can nevertheless recommence at a later time provided the right conditions are satisfied (conditions usually stated in the league's bylaws). How is the example of events supposed to help with resurrection? Hylomorphists can argue that my life is an event whose occurrence is sufficient for me to exist. If lives are events like the aforementioned sporting events, if they are capable of ceasing and later recommencing, then there is a basis for rejecting the re-existence restriction for living things such as human beings. If my life ceases to exist when I die, it can still recommence at a later time, and if my life recommences, I will once again exist. Here is a rough sketch of how hylomorphists might argue for this kind of view.

One popular account of events claims that events are property exemplifications (Goldman 1970, Kim 1973, Bennett 1988). An event, on this account, exists exactly if an object has a property at a time, or a number of objects stand in a relation at a time. With this understanding of events in mind consider again van Inwagen's notion of being caught up in a life (Section 1 above). A life in van Inwagen's sense seems to be a complex multigrade relation among a number of fundamental physical particles. For those particles to be caught up in something's life at a time thus appears to be an event in the aforementioned sense. Hylomorphists might now argue that when objects of these sorts stand in that type of relation (a dynamic structure) at a time, they compose a distinctive individual, a new substance, a living thing such as I am. When I die the event that is my life ceases to exist; the physical materials that compose me cease to stand in the relevant complex relation. It is nevertheless possible for an event that has ceased, to recommence again at a later time. Consequently, it is possible that the event that is my life might resume again at a time after I die. But if it is my life that recommences at a later time, it seems plausible to suppose that it is I myself who am living it, that I myself exist again when my life recommences. Consequently, if God can bring it about that my life recommences at a time after I die, that some physical materials take on the relevant dynamic structure, then God can bring it about that I exist at a time after I die.

Critics might still wonder: How is God able to guarantee that it is my life and not some other that recommences after I die? How, in other words, is God able to satisfy condition (b) on this account? One idea is that each person's life has a characteristic or set of characteristics that is entirely unique to it – a unique relation to God or perhaps a role in the universe that only my life can play, something like a vocation in Adams

(1987) sense.[17] Suppose that this is the case, and that R is a characteristic of this sort. Suppose now that I die, and at a later time God wills that my life should recommence, that physical materials should carry on the activities of a distinctively human life, and in particular the activities of a human life that has characteristic R. Since R is unique to my life, since mine is the only life that can have R, it must be my life that recommences. And if it is my life that recommences, then it seems plausible to suppose that it is I myself and no one else who lives it. God is thus able to satisfy condition (b), to guarantee that I am the individual who is brought back from the dead.

I've just described two broad strategies hylomorphists can follow in response to the re-existence restriction. The surviving part strategy claims that the restriction is out of play when it comes to resurrection, and the gappy existence strategy claims that the restriction is false. According to both, the argument for Premise 2 founders. Defenders of the compatibility thesis can argue in addition that there is good prima facie reason to reject Premise 2. God has managed to bring it about once already that some materials have a distinctively human structure and compose me and not someone else. Since it has been within God's power to do this at times before my death, there is good reason to think it remains within God's power to do this at times after my death. If the re-existence restriction obtained, of course, then this would not be the case; there would be a difference in what God could do before and after my death. But, as we've seen, hylomorphists can follow at least two strategies for rejecting the restriction. So on balance, hylomorphists can say, we have good reason to think that God is capable of satisfying conditions (a) and (b); God can bring it about at a time after I die that some materials have a distinctively human structure and compose me and not someone else, and if that is the case, we have good reason to think that the compatibility thesis is true, that hylomorphism is compatible with the doctrine of resurrection.

I want to close by considering three objections van Inwagen raises to something he calls 'an "Aristotelian" account of resurrection' (1978: 119-120). I want to make it clear that the account he has in mind is not the hylomorphic account I've just described.

Van Inwagen's first objection is that it is possible for the physical particles that compose me to be destroyed. If that is the case, however,

[17] Perhaps this is one way of interpreting the doctrine that God specially creates each human soul.

then it might be impossible for God to reassemble those very particles at a time after I die, and in that case, he concludes, resurrection would be impossible. Van Inwagen's second objection is that it is possible for the physical particles that compose me at a time to compose someone else at a different time. But if that is the case, it is difficult to see what principled basis there could be for determining who gets those particles at the resurrection. Van Inwagen's third objection concerns the kind of body I will have when I am resurrected. God could reassemble the physical particles that composed me when I was a young child into an exact replica of my childhood self. God could also, and perhaps even simultaneously, reassemble the physical particles that composed me when I was an old man into an exact replica of my elderly self. Both, it seems, could lay claim to being me, yet it is impossible that I should be identical to both.

Van Inwagen's arguments all implicitly assume that resurrection requires that the very same physical particles or materials that composed me at some time prior to my death should compose me when I am resurrected. But the hylomorphic account of resurrection I've described is not committed to this. The two strategies I've discussed are both compatible with God using physical materials other than those that composed me at any time prior to my death.[18] What is crucial to resurrection on both accounts is not the sameness of physical materials but of something else: a surviving part or a life. On either account God can resurrect me using physical particles different from any that composed me prior to my death. It is thus irrelevant that some of those physical particles should have ceased to exist in the interim, as per van Inwagen's first objection. It is also irrelevant that some of those physical particles should have been shared with other people, as per van Inwagen's second objection. All that is relevant is that God bring it about that some physical materials or other be structured humanwise at a time after my death and either be connected to my surviving part or else continue the event that was my life.

An analogous point holds for van Inwagen's third objection. Suppose that God constructs a replica of my young self and a replica of my elderly self. Hylomorphism does not imply that I must be identical to either of

[18] It is thus compatible with St. Paul's idea (1 Cor 15: 35-44) that my resurrected body might be in some way different from the natural body I was initially born with, lived with, and died with. Paul calls it a 'spiritual body' (soma pneumatikon).

these individuals. According to the surviving part strategy, I am identical to one of these individuals or the other only if God has willed that its body be joined to my surviving part. And according to the gappy existence strategy, I am identical to one of these individuals or the other only if God has willed that it be living my life. Since my life and my surviving part are unique to me on these accounts, they are not things that could be shared by multiple individuals, not even if those individuals are exact replicas of me at various stages of my life.

There is a great deal more that could be said about hylomorphism and the resurrection. I nevertheless hope that I've said enough here to build a preliminary case for their compatibility.[19]

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[19] Acknowledgment: This paper was originally presented in Munich, at a conference for the Analytic Theology Project, generously funded by the John Templeton Foundation.

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