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# PHYSICALISM AND CLASSICAL THEISM

Peter Forrest

In this paper I compare two versions of non-eliminative physicalism (reductive physicalism and supervenience physicalism) with four of the five theses of classical theism: divine non-contingency, divine transcendence, divine simplicity, and the aseity thesis. I argue that:

1. Both physicalism (either version) and classical theism require intuition-transcending identifications of some properties or possibilities.
2. Among other identifications, both reductive physicalism and classical theism need to identify psychological with functional properties.
3. Both reductive physicalism and classical theism have a problem with consciousness.
4. Both reductive physicalists and classical theists should distinguish fine and coarse grained theories of properties.

## *Introduction*

In this paper I compare non-eliminative physicalism with classical theism, noting especially the ways in which they rely on similar theses in analytic ontology and in philosophical psychology. Presumably there is a moral in this: those who live in glass houses should not throw stones.

I shall be comparing two versions of non-eliminative physicalism, namely reductive physicalism and supervenience physicalism, with four of the five theses of classical theism, namely divine non-contingency, divine transcendence, divine simplicity, and the aseity thesis. I shall have nothing much to say about a fifth thesis, divine eternity, even though it is the temporal analog of simplicity.<sup>1</sup> Moreover I shall refrain from strengthening the aseity thesis to what Plantinga has called the sovereignty-aseity intuition.<sup>2</sup> As I understand it, the aseity thesis says that (i) God is a se, that is not dependent for existence on anything else, and (ii) everything else depends for its existence on God.<sup>3</sup>

In order to give this comparison some structure I shall argue for the following four theses:

Thesis One (intuition-transcendence):

Part (i): Both versions of non-eliminative physicalism require intuition-transcending, but not counter-intuitive, identifications of



some properties or possibilities.<sup>4</sup>

Part (ii): Similarly, divine non-contingency, divine simplicity, and perhaps divine transcendence require intuition-transcending, but not counter-intuitive, identifications.

Thesis Two (the reliance on functionalism): Both reductive physicalists and classical theists have reason to identify psychological with functional properties.

Thesis Three (the shared problem of consciousness): Both classical theists and reductive physicalists have a problem with consciousness.

Thesis Four (the reliance on the coarse/fine distinction): One solution to the problem of consciousness is to distinguish fine and coarse grained theories of properties. The combination of finer and coarser grained theories also enables us to resolve a tension between divine simplicity and the aseity thesis.

### 1. Theories of possibility and of properties

To make my comparison between physicalism and classical theism I require the appropriate context, namely theories of possibility and of properties. Let us begin with possibility. I shall be considering the modality of the metaphysically possible, to be distinguished from mere logical consistency on the one hand, and from nomological and time-dependent possibility, on the other.

Those who think about metaphysical possibility find themselves with various intuitions, only sometimes in agreement with those of other metaphysicians. Here are some examples:

The Necessity of Mathematics:

All mathematical and logical truths, including those of set theory and mereology, are necessary.

The Necessity of Identity:

True identity statements in which the referring expressions function like proper names (eg that Hesperus is Phosphorus) are necessary.<sup>5</sup>

The Possibility of Actuality:

Whatever is true is possibly true.

An intuition which I shall seek to modify, but which might be fairly widespread is:

The Contingency of Existence:

If something exists it is not merely logically consistent that it never have existed but metaphysically possible.

By an *intuition-bound* theory of (metaphysical) possibility I mean one which makes no assertions about possibility other than those for which there is intuitive support. By an *intuition-transcending* theory I mean one which does make further assertions. The point around which this whole paper revolves is that intuition transcendence is not the same as being counter-intuitive, even though we are constantly tempted to confuse the two when it comes to metaphysical disputes. And I exhibit both physicalism and classical theism as intuition-transcending but not counter-intuitive.

An example of intuition transcendence which is directly relevant to the present topic concerns Guleserian's intriguing modal argument from evil.<sup>6</sup> Guleserian argues that there are possible worlds so evil that it is impossible that they are created by a God who is necessarily good. Let us call these metaphysical Gulags. This conflicts with the traditional theistic claims that (i) not merely does no contingent thing exist uncreated but that it is metaphysically impossible for any created thing to have existed uncreated and (ii) not merely is God in fact good, it is necessarily the case that God is good. The response of theists has typically been to deny the possibility of metaphysical Gulags.<sup>7</sup> But there is nothing in our modal intuitions which excludes them. Instead theists are insisting that it is initially an open question whether the metaphysical Gulags are possible and that they are entitled to assume that they are impossible in order to defend theism. So, I submit, the rejection of metaphysical Gulags is an intuition-transcending theory, and Guleserian's argument derives its appeal from our tendency to assimilate the intuition-transcending to the counter-intuitive.

Just as we have intuitions about possibilities we have ones about properties. Here is a firm one.

Necessity of Co-extension:

If it is metaphysically possible that something has F but not G, then being F is not identical to being G.

More controversial are the following, starting with the converse of the Necessity of Co-extension:

Sufficiency of Co-extension:

If being F is not identical to being G then it is either metaphysically possible that something has F but not G or metaphysically possible that something has G but not F.

Conjunction Principle:

If being F and being G are properties and if there is something which is both F and G then there is a conjunctive property: being F and G.<sup>8</sup>

Functional Property Principle:

If being G is a property of properties then having-some-property-which-has-G is itself a property.

Instantiation Condition:

There are no uninstantiated properties.

Resemblance Principle:

If things resemble each other to some extent because they are all Fs then they resemble each other because of shared properties.<sup>9</sup>

More controversial still are the Disjunction and Negation Principles:

Disjunction Principle:

If F and G are both properties then there is a property of being F and/or G.

Negation Principle:

If being F is property and there is something which is not F, then there is a property of not being F.

Many principles such as the Instantiation Condition could be treated as stipulations rather than intuitions. That is, we simply restrict our

attention to instantiated properties. Less drastically we might combine an intuition-transcending ambiguity thesis with a stipulative disambiguation. For instance we might transcend our property-theoretic intuitions by postulating that there are two kinds of entity both of which could be called properties. For one kind, perhaps, but not the other the disjunction and negation principles hold. Given that intuition-transcending ambiguity thesis, we could then stipulate that by properties we mean, say, the first kind of entity.

Theories of properties may differ, then, in various ways depending on (i) the metaphysical intuitions (ii) any intuition-transcending or even counter-intuitive postulates and (iii) any stipulations made. I shall now give an important example of these differences, namely the distinction between coarse and fine grained theories of properties.<sup>10</sup> Let us say that being F *metaphysically entails* being G if it is metaphysically impossible for there to be an F which is not a G. This enables us to characterise the two grades:

- (i) The fine grade theory of properties, in which pairs of mutually metaphysically entailing properties are allowed.
- (ii) The coarse grade theory of properties, in which there is no mutual entailment of distinct properties.

The Sufficiency of Co-extension does not hold for the fine grain theory. That might be taken as showing that fine grain theories are counter-intuitive. But instead we might consider that until we stipulate one way or the other a theory of properties is ambiguous between a fine grain and a coarse grain theory, and that Sufficiency of Co-extension holds only for the coarse grain theory.

One way in which this ambiguity thesis could be correct without being ontologically extravagant would be if there is one fundamental kind of property and the others are constructed from these in some fashion. For instance, coarse grain properties could be thought of as equivalence classes of fine grain properties under the equivalence relation of metaphysically necessary co-extension. Conversely, fine grain properties could be thought of as *refinements* of coarse grain properties. We could, for instance, think of the fine grain property as the pair consisting of the coarse grain property together with a way of analysing it. For example, suppose we distinguish the fine grain properties of triangularity and trilaterality, while assuming that, of metaphysical necessity, all and only triangles are trilaterals.<sup>11</sup> There is then just the one coarse grain property but it can be analysed: (i) as being composed of three lines making a closed figure; or (ii) as being composed of lines making a closed figure with three angles.

## 2. Physicalism as metaphysics

Eliminative physicalists need not concern themselves with properties and possibilities, but non-eliminative physicalists, I take it, believe that there are mental properties which are, perhaps in a fallible fashion, recognised by introspection in ones own case and spontaneously attributed to others.<sup>12</sup> I shall not attempt a complete classification of versions

of non-eliminative physicalism. For it suffices for my purpose of comparison to select two somewhat different but familiar enough versions, which I hope are representative.

A rather weak version of physicalism is the position, introduced as far as I know by Davidson, that all truths supervene on the physical.<sup>13</sup> Call this supervenience physicalism. Here I shall take supervenience to mean what Kim has called *global* supervenience.<sup>14</sup> So supervenience physicalism amounts to saying that any two possible worlds exactly resembling each other in all physical respects exactly resemble each other in all respects. To be sure, this thesis has been criticised as too weak to capture the pre-theoretic idea of physicalism.<sup>15</sup> But it will serve my purpose which is to make some comparisons between physicalism and classical theism. For strengthening global supervenience will, if anything, increase its metaphysical commitments.

I shall also consider a rather different formulation of non-eliminative physicalism, namely reductive physicalism. As I understand it, a truth is *reduced* to those of the physical sciences if it is logically entailed by a combination of truths expressible in the physical sciences together with appropriate bridging laws. Reductive physicalism, in its initial formulation, is the thesis that all truths are thus reducible.

The role of bridging laws in a reduction may be illustrated using the example of thermodynamics, which we cannot reduce to statistical mechanics until, to oversimplify things, we correlate temperature with mean kinetic energy. This correlation is the bridging law. Such bridging laws are not themselves part of the more fundamental theory, in this case statistical mechanics. That raises the question: 'Which correlations are we entitled to call bridging laws?' If we had no restriction at all then we could claim to have reduced Xs to Ys whenever the Xs are correlated with the Ys. Nor is it sufficient that the correlation be nomologically necessary. For if it were, then those attribute dualists who believe there are psycho-physical correlation laws would be classified as reductive physicalists, which is absurd. Or suppose, as used to be thought, that the laws of nature were both deterministic and time-reversible, so that the present state of the universe plus the laws specifies both future and past states. In that case, if nomological necessity was sufficient for a correlation to count as a bridging law we could reduce the past and future to the present, or, even more absurdly, reduce past, present and near future all to the state of the universe at some date in the far future. I draw the conclusion that bridging laws should hold of a necessity stronger than the nomological, and metaphysical necessity is the obvious candidate.

If, however, metaphysical necessity were the only constraint on the bridging laws, then reductive physicalism would not be much stronger than supervenience physicalism.<sup>16</sup> My immediate purpose is to find some specimen formulations of physicalism in order to make the comparisons with classical theism. For the sake of variety in my specimens, I shall, therefore, seek a stronger version of reductive physicalism, based on an alternative account of reduction. In the case of thermodynamics the bridging laws are type/type (ie property/property) identities. Thus

the property of being at, say, 100°C is identified with the property of having such and such mean kinetic energy. That suggests the type/type identity theory of such 'old time' physicalists as Smart. I shall interpret reductive physicalism in this way, although, in response to the following objection, this type/type identification will be taken as just the first stage of a two stage reduction.

The objection to type/type identification is quite general but may conveniently be illustrated using the example of pain. We should resist the attempt to identify the property of being in pain with the property of having certain brain processes, on the grounds that the same type of brain processes might, in a different circumstances, have caused behaviour which systematically tended to increase the relevant stimuli, which, moreover, were not harmful but beneficial to the organism. If that were so for a whole species it would be strange, to say the least, to label it as 'mad pain' and insist that both in our case and the case of that species the brain process in question was pain.<sup>17</sup> In reply to this the physicalist might say that pain is a property of the whole nervous system, even the whole body, not just of the brain. For this reply to succeed it is crucial that the way the muscles are stimulated by spiking frequencies in nerves should be included in the property identified with being in pain. Otherwise a species for which decreased spiking frequency was responsible for muscle activity would exhibit quite different behaviour while still having the property purportedly identified with pain.

Incorporating all this detail about the motor nerves and muscles into the characterisation of the property of being in pain meets my original objection but it leaves the type-type identity theorist open to the opposite objection, namely that now there could be cases of pain without all these details being as they are with us. In particular there could be a species for which the muscles did require a decrease in spiking frequency of the motor neurones to be stimulated but which had a nervous system much like ours except where our motor nerves have increased spiking frequencies theirs have less. It would be counter-intuitive to suggest that such animals could not feel pain.

These, and other, problems should push the reductive physicalist towards a reliance on functionalism, namely the characterisation of mental states by means of their functional characteristics. In the context of an investigation into the nature of mental properties this amounts to the identification of mental with functional properties. For instance, being in pain would be identified with the property: instantiating some property the instantiation of which typically causes pain behaviour and is typically causally related to various other mental properties in the appropriate ways. As a matter of contingent fact, physicalists then say, the only instantiated properties whose instantiation typically causes pain behaviour etc are physical properties.

I consider this to be the best way of overcoming the difficulties with reductive physicalism and I draw the conclusion that it requires functionalism, namely the thesis that all mental properties are functional ones.

A corollary, however, of the reliance on functionalism is that there

has been a two step not a one step reduction of the psychological to the physical. For physicalists are first reducing the psychological to the functional, by identifying properties, and then reducing the functional to the physical. The latter reduction is based on the existential form of a functional property, namely: having some property such that X. As a matter of contingent fact, physicalists tell us, all the instantiated properties such that X are physical ones.

I have characterised two versions of non-eliminative physicalism. I shall now argue for Part (i) of Thesis One by considering them in turn. Supervenience physicalism is, I say, based on the concept of metaphysical necessity. For there is nothing logically inconsistent or inconceivable about dualism. So there are conceivable, and logically possible 'worlds' in which dualism is correct. Hence if metaphysical necessity were assimilated to logical or conceptual necessity the mental would not supervene on the physical. On the other hand, if we assimilated metaphysical to nomological necessity then any dualists who allowed that there were strict psycho-physical laws correlating mental states with physical processes would satisfy the definition of supervenience physicalism, which I find absurd. Supervenience physicalists are thus committed to the modality of metaphysical necessity.

Moreover, in order to hold supervenience physicalism, it is not enough to accept the modality of metaphysical necessity. An intuition-transcending theory is required, whereby the range of possibilities is restricted. Otherwise the mental need not supervene on the physical because it could supervene instead on what Lewis jokingly refers to as ghost stuff. Or, more seriously, the mental could supervene on alien possibilities, that is possibilities unlike anything actual. The reason for this is that functional properties may be realised in anything which plays the appropriate role and so may be realised in alien possibilities, with suitably complex structure.<sup>18</sup> Supervenience physicalism requires, therefore, an intuition-transcending restriction of the range of possible worlds so as to exclude alien possibilities. This establishes Part (i) of Thesis One for the case of supervenience physicalism.

I now turn to reductive physicalism. I shall argue that any reductive physicalists who insist upon an intuition-bound theory of properties are committed to an intuition-transcending theory of possibilities. So in some way or other reductive physicalists are committed to intuition-transcendence.

Let us consider, then, those reductive physicalists who insist on an intuition-bound theory of possibilities. I have interpreted reductive physicalism as requiring the identification of mental with functional properties. Now there is no logical equivalence between 'feels like that' said of pain and the corresponding functional characterisation. In particular there is no logical incoherence in the idea of trees suffering pain when being cut down but having no capacity for any kind of aversive behaviour—these are not the ones which grab the chain saw—and so not satisfying the functional characterisation of pain. How, then, can mental properties be identified with functional ones in the absence of logical equivalence? The only relevant intuition here is the Sufficiency of Co-



extension, which states that no distinct properties can be co-extensive of metaphysical necessity. Thus the reductive physicalists whom we are considering will insist upon the metaphysical (but not the logical) necessity of the co-extension of mental and functional properties. Hence the logically possible 'worlds' in which trees feel pain when their limbs are sawn off are metaphysically impossible. Such a restriction of the metaphysically possible is, I submit, intuition-transcending.

In reply to this, reductive physicalists might insist that there can be no distinct properties which are co-extensive of nomological necessity. That would be to reject the possibility of a form of attribute dualism in which there is a psycho-physical law perfectly correlating distinct mental and physical properties. While that rejection might have something to recommend it, it does not save reductive physicalists from intuition-transcendence. For there is nothing counter-intuitive about distinct properties perfectly correlated of nomological necessity. Indeed quantum physics seems to have provided us with two, related, examples of just such perfect correlations, namely: (i) that between having spin (intrinsic angular momentum) of magnitude an even times that of an electron and being a boson; and (ii) that between having spin of magnitude an odd times that of an electron and being a fermion.<sup>19</sup>

I conclude that reductive physicalism requires an intuition-transcending theory either of properties or of possibilities. This completes my case for Part (i) of Thesis One.

### *3. Divine non-contingency*

Part (ii) of Thesis One states that, just like supervenience and reductive physicalists, classical theists should resort to intuition-transcending theories of possibilities and/or properties. They need to do so in order to defend divine non-contingency, divine transcendence and divine simplicity. I start with divine non-contingency. Here there is a straightforward comparison with supervenience physicalism. Initially we might think there are possible worlds with and without God, just as initially we might think there are possible worlds containing humanoids with and without non-physical attributes. In both cases we restrict the range of possible worlds in ways which are not counter-intuitive so much as intuition-transcending.

Indeed the comparison may be taken further. For theists could, if they wished, be supervenience physicalists without considering God to be a physical substance. To establish this compatibility between theism and supervenience physicalism I require some further speculations, which, I invite readers to grant, are jointly coherent. The first is that God cannot create non-physical things, or things with non-physical properties. This is not because of any lack of divine power but because without physicality nothing could be distinct from God.<sup>20</sup> The second speculation is the intuition-transcending thesis that physical things cannot, as attribute dualists suggest, have non-physical properties. The third is that having created a physical universe of a given kind, God's relations with that universe flow from the divine compassion without any further

exercise of power. Putting these three speculations together we might speculate that all possible worlds are ones in which God creates, if at all, one or more physical universes, and that there is no difference between such worlds without a physical difference. In particular it is not within God's power to have created a universe like this one without acting towards it as God has.<sup>21</sup> Such a highly speculative line of thought would reconcile supervenience physicalism with belief in a non-physical non-contingent God.

Divine non-contingency, then, requires just the sort of intuition transcendence that supervenience physicalism requires. In addition the two positions are compatible. Or so I say, but this case for Part (ii) of Thesis One would collapse if there is a firm intuition that everything which exists, even God, does so contingently. For in that case divine non-contingency would be counter-intuitive rather than merely intuition-transcending.<sup>22</sup>

In this context we need to distinguish between merely defeating an intuition and dissolving it. Intuitions are, I assume, tendencies to believe. (Although not all tendencies to believe are intuitions). I shall say that an intuition is merely *defeated* by some argument if the argument provides a reason for resisting that tendency without removing it. I shall say that an argument *dissolves* the intuition if it removes even the tendency to believe. The axioms of naive set theory provide an example: many of us find Russell's Paradox disconcerting because the intuitions leading to the paradox have not been dissolved, merely defeated. Likewise a good argument for a non-contingent God might merely exhibit a clash between the intuition that existence is contingent and those intuitions on which the argument is based. So even if we considered the Contingency of Existence defeated, divine non-contingency would still be counter-intuitive. By contrast consider an intuitive tendency to believe that if every particle will pass out of existence then eventually there will be no particles. This would be dissolved by an explanation of the fallacy involved.

In order to defend divine non-contingency as intuition-transcending rather than counter-intuitive, I must dissolve the Contingency of Existence, not merely defeat it. The method I shall use, *rational deconstruction*, is generally applicable to those intuitions which are the result of implicit, unconscious, arguments. (Perhaps all philosopher's intuitions are of that sort. I do not know. But at least many of them are.) The method of dissolving such intuitions is to uncover the implicit arguments for the supposedly intuitive belief, with the aim of showing that it stands or falls with the success of those implicit arguments. Hence if it falls, the intuition is not merely defeated but dissolved.

Let me begin with an implicit argument which Aquinas could have explicitly endorsed for complex entities. One reason, I say, why we tend to think of existence as contingent is because anything which can cease to exist is contingent and anything with structure could cease to exist because its components could come to be related differently. We might well criticise this argument even for complex things.<sup>23</sup> My point, though, is that anyone who grants that it was reliance on some such argument

which was supporting the apparently intuitive principle that existence is contingent should grant that the intuition would not apply to God if God is without the sort of structure which results in the metaphysical possibility of disintegration.

Perhaps the commonest implicit argument, however, derives from Kant's rejection of Descartes' version of the ontological argument. It is indeed plausible that no true existential statement is analytically non-contingent. (By which I mean non-contingent due to the way language functions.<sup>24</sup>) The point has been made repeatedly, however, that theists—and atheists—who take God to be non-contingent need not be interpreted as taking the existence of God to be analytically non-contingent.<sup>25</sup>

Opponents of divine non-contingency could reply that their rejection of the analytic non-contingency of God's existence is not the whole of their case but rather serves to focus our attention on what the synthetic non-contingency could be due to. This question is especially pressing in the present context because there is a Kantian account of such synthetic non-contingency, namely that it is the result of our constructing empirical reality in a systematic fashion out of things-in-themselves. Some such account could perhaps be adopted by physicalists who might take the mental as constructed out of the physical, whether or not the physical is identified, in non-Kantian fashion, with the things-in-themselves. Theists should not, however, take God to be a construct and so should not adopt the Kantian account of necessity for the case of God. For our concept of God is of something which cannot exist merely as a construct.<sup>26</sup>

This line of argument against divine non-contingency can, then, be construed as a trilemma: either non-contingency is analytic or due to our construction or it is mysterious. The existence of God is not non-contingent in either of the first two ways so it is mysterious, which is a reason for rejecting it.

My response is that there are many non-Kantian ways of explaining non-contingency. Interestingly, here there is a parallel not with physicalism itself but with a thesis many physicalists hold, namely that the laws of nature although metaphysically contingent have their own kind of non-contingency which is neither analytic nor capable of Kantian explanation.<sup>27</sup> Non-contingency could, for instance, be explained in terms of time-dependent truth.<sup>28</sup> Or it could be explained by means of higher order universals.<sup>29</sup> The details are beyond the scope of this paper, but my response, in outline, is that Kant discovered just one of many explanations of those non-contingencies which are not analytic.

The case for the parallel between divine non-contingency and supervenience physicalism depends, then, on the rejection of the principle that all existence is contingent. I submit that this principle is one of those intuitions which are the result of implicit arguments, and these arguments, once made explicit, are seen to fail, thus dissolving the intuition. I hold, then, that divine non-contingency is not counter-intuitive, but, merely, as I have been advocating, intuition-transcending.

4. *Divine transcendence*

Whereas supervenience physicalism provided the comparison with divine non-contingency, it turns out that reductive physicalism provides the comparison with divine transcendence and divine simplicity.

By divine transcendence I do not mean the fairly obvious thesis that we do not fully comprehend God or the outlandish thesis that we can say nothing true of God. Rather I mean that God is not like any other thing, or, which I stipulate is to mean the same, God resembles other things in no respect. Perhaps some classical theists would want to go further and deny that God shares any properties at all with other entities.<sup>30</sup> They could be accommodated by an intuition-transcending restriction of properties to ones which constitute respects of resemblance. (So the converse of the Resemblance Principle would hold.)

Before proceeding I shall make two remarks on which properties constitute respects of resemblance. The first is that intuitively negative properties do not constitute respects of resemblance. For instance the fact that both God and the Ganges have the property of never being frozen does not constitute a respect of resemblance. The second is that a relational property might constitute a respect of resemblance. For the property might be analysed as something having a relation to some part or attribute of itself. That two objects, for instance, have a part made of gold would constitute a respect in which they resemble each other. This leaves us with the following candidates for properties sharing which constitutes a respect of resemblance: those which are intuitively positive and are either non-relational or analysed only in terms of relations with parts or attributes of the thing itself. I shall call such properties *intrinsic* and the remainder *extrinsic*. I shall assume, then, that all and only intrinsic properties constitute respects of resemblance. Hence divine transcendence is the thesis that God shares with other beings no intrinsic properties.<sup>31</sup>

Notice that on the definition I have given such relational properties as having-a-daughter are extrinsic. Now there may be those who would restrict the extrinsic properties to ones such as being-Alice's-parent, where some particular is mentioned. If so they should take my definition as stipulative, and intended to give the intuitively correct result about resemblance. For I do not regard having a daughter as a respect of resemblance. Or, if even this is queried, I would submit that the concept of divine transcendence admits an explication in which resemblance is restricted to those respects which I have stipulated to be extrinsic.

One objection to the transcendence of God<sup>32</sup> is that God and created things must share the property of having some property. Having some property is, however, a necessary condition for resemblance but not, strictly speaking, a respect of resemblance. So if we decide it was intrinsic we should take it as a counter-example to my claim that all intrinsic properties are respects of resemblance, rather than as a counter-example to divine transcendence. Instead I say that it is not an intrinsic property, for it is analysed as standing in a certain 'relation' namely instantiation to some property or other. Either instantiation is not a genuine relation

in which case *having a property* should not itself be a property, or instantiation is a genuine relation in which case *having a property* is extrinsic.

Another puzzling case is temporality. Clearly we are temporal beings, so if being temporal is an intrinsic property then divine transcendence implies divine eternity. I shall argue, however, that there are two distinct ways of being temporal only one of which is the having of an intrinsic property of being temporal. A transcendent God may therefore be temporal in the other, extrinsic, sense. The intrinsic way of being temporal is being composed of temporal parts or stages some of which are later than others. For that, although a relational property, is analysed only in terms of relations with parts or attributes of the thing itself. A transcendent God cannot, I grant, have temporal parts or stages. But there is an extrinsic way in which God can be temporal, namely standing in temporal relations to created things. That sort of temporality is quite compatible with transcendence.<sup>33</sup>

I shall now speculate as to how a God without temporal stages might nonetheless stand in temporal relations to creation. I begin by considering the proposal, associated with Gödel's solution to the equations of general relativity, that time is circular, with the distant future being not merely qualitatively but numerically the same as the distant past. Against this it could be objected that no event is earlier than itself but being earlier than is transitive. From these two premisses we may infer that there is no cycle of events,  $E_1, \dots, E_n$  such that  $E_1$  is earlier than  $E_2$ ,  $E_2$  is earlier than  $E_3$  etc, but  $E_n$  is in its turn earlier than  $E_1$ . But such a cycle would occur if time was circular. The obvious reply to this is that if time were circular then the temporal ordering would not be transitive but only locally transitive. An analog is the relation of being-West-of. If we ignore regions near the Poles then being-West-of is locally transitive, but it is not transitive without qualification. Now I do not believe time is circular in the way that Gödel's solution suggests. But that example and the analogy with being-West-of enables me to speculate that God, without any division into temporal stages, stands in two temporal relations to creation. As the 'Alpha' God is earlier than all else; as the 'Omega', God is later than everything else. And that can hold even if the everything else consists of events without end.<sup>34</sup>

I now turn to a more serious objection to divine transcendence. Those who endorse it nonetheless attribute to God various quite determinate psychological characteristics which can also be attributed to human beings. Initially these would seem to correspond to intrinsic properties. Thus God is almost always said to be wise and loving, and sometimes said to have aesthetic sensibilities and a sense of humour. Does it not follow, then, that God and human beings share various psychological properties? Now there are a number of accounts on which it is denied that these things are predicated univocally of God and human beings, but discussing these accounts is beyond the scope of this paper. Rather, I am interested in defending the transcendence of God without undermining the univocity of what is said of God and human beings.

One way out of this difficulty is to follow Alston<sup>35</sup> and identify these determinate psychological properties with functional ones, where the

functional roles are performed in one way in human beings and in another in God. Thus by identifying determinate psychological properties with functional ones we can explain how various predicates are applied univocally to God and to human beings even though the only shared properties are extrinsic ones. For example, loving-kindness might be identified with the functional property of having some property (the *grounding* property) the having of which spontaneously results in what is good for others regardless of their deserts. (Or if that is too crude, I ask readers to fill in the details.) In that case loving kindness is indeed shared by God and most human beings, provided we read 'others' as 'some others' not 'all others'. It is, however, extrinsic, while the grounding property in virtue of which God has loving kindness, which may well be intrinsic, is not shared with any human beings.

In further support of this Alstonian account I note that the grounding property in virtue of which some human beings are full of loving kindness is probably either wholly or in part a complex structural property of their brains. Clearly God does not share such a property with any of us.

There are, however, some divine attributes, notably self-knowledge and self-love, which cannot shown to be extrinsic in quite this way. For, in both the human and divine case, self-knowledge and self-love are analysed in terms of relations with (parts or attributes of) the one who has the property in question. What shall we say of these? Here we need to characterise the relations of knowing or loving functionally, namely as being related by a relation (the *grounding* relation) the holding of which typically has certain specified results. Having characterised the relations of loving or knowing functionally we do not then need a direct functional characterisation of the special reflexive cases of self-love and self-knowledge. And we may now say that the grounding relations in virtue of which God knows or loves are different from those for human beings.

The crucial point that many psychological properties are extrinsic can be re-stated using the broad/narrow psychology distinction. A broad psychological property is one which is an extrinsic property of the person's mind, and a narrow psychological property is one which is intrinsic to the mind. There has been persuasive argument that many psychological properties are indeed broad. Thus Putnam argues for the broad status of even such *prima facie* narrow states as belief.<sup>36</sup> Without denying that there are some interesting narrow psychological properties, such as the desire that feeling thirsty cease, this emphasis on the broad character of many determinate psychological properties supports the thesis that all the psychological properties any creature shares with God are extrinsic ones. Thus we are able to defend divine transcendence, and in a way which provides evidence for Thesis Three.

The most serious objection to divine transcendence, however, is provided not by any determinate psychological property but by consciousness itself, which is, it would seem, shared by God, we ourselves and, presumably, at least some animals; but is not shared by rocks, plants and philosophers' zombies. Here supervenience physicalism is of little comfort to classical theists, for the property of consciousness might well

be a supervenient one. Reductive physicalists, however, share the problem of consciousness with classical theists. For just as it threatens to be an intrinsic property shared by God and us, violating divine transcendence, it also threatens to be a non-physical property. Consciousness presents much the same problem, then, for reductive physicalists and classical theists, a problem to which I shall return.

Divine transcendence, then, may be defended by resort to the combination of functionalism with some response to the problem of consciousness. This provides support for Theses Two and Three.

### 5. *Divine simplicity*

I now turn to the perplexing thesis, quite central to classical theism, that God is simple. Initially we might characterise this as the thesis that in God there is a distinction neither of parts nor of properties. A simple entity might, however, stand in one or more relations to other entities. We should allow, therefore, a multiplicity of properties provided these are analysed in terms of relations with other entities. And clearly, if there are negative properties then God has many of them. Divine simplicity should be reformulated, therefore, as the thesis that in God there is neither a multiplicity of parts nor a multiplicity of intrinsic properties. The mention of parts might well be redundant, for we may be guided by the intuition that every mereologically complex thing would have the intrinsic property of having at least two parts. In any case, because classical theists deny that God is spatially extended, they can easily take any *prima facie* parts of God (eg the three persons of the orthodox doctrine of the Trinity) as *prima facie* cases of a multiplicity of properties.<sup>37</sup> I shall therefore concentrate on divine simplicity as excluding a multiplicity of intrinsic properties.

Many classical theists such as Aquinas would go further and deny that in God there are even such categorial distinctions as that between substance and property.<sup>38</sup> This denial of categorial structure could be taken to imply that God is not a thing and so not the sort of thing to have properties. I myself have considerable sympathy with this position, which might seem, however, to trivialise the discussion of whether God has a multiplicity of properties. To avoid trivialisations, I allow an instrumentalist attitude towards ontology: it is as if God is a substance and has at least one property, divinity. The question can then be raised within the scope of this 'as if' whether there is any multiplicity of intrinsic properties.

God has intuitively distinct properties such as self-love and self-knowledge. I have, however, already argued that these are to be treated as the reflexive case of relations which are functionally characterised and so extrinsic. To be sure the grounding relations for (divine) love and knowledge are intrinsic. But it is not so much counter-intuitive as intuition-transcending to identify these two relations. (So we have another illustration of Thesis One.)

The chief problem with divine simplicity does not, then, arise from the identification of 'intuitively distinct' intrinsic properties, which are

typically the unknown groundings of familiar enough functional properties.<sup>39</sup> The chief problem as I see it is this: How could a God without any multiplicity of intrinsic properties exhibit psychological complexity? As in the case of divine transcendence, functionalism solves this problem by motivating the claim that the many distinct mental properties we share with God are extrinsic ones. Provided the one underlying state has many effects it can play many functional roles. Hence in the divine case there need only be the one grounding property.

An objection to this way of reconciling ontological simplicity with psychological complexity is that the extrinsic (broad) psychological properties, partly characterised by relations with items in our environment, are correlated with intrinsic (narrow) ones, which are the objects of introspection. For example even if, as Putnam has argued, the desire for a glass of water is extrinsic, the desire that thirst cease would seem to be intrinsic. Likewise, the multiplicity of extrinsic psychological properties shared by God and human beings must, the objection goes, reflect a multiplicity of narrow psychological properties in God, even if these are quite unlike the narrow psychological properties we humans have.

To the extent that we are merely extrapolating from the human case this objection is somewhat irrelevant, for it is already acknowledged that God is unlike a human being. There are, however, a couple of arguments behind the intuition that broad psychological properties depend on narrow ones. One of them is that we would not call a functional property a *psychological* or *mental* one unless it had an introspectible component.<sup>40</sup> Otherwise every refrigerator could literally feel comfortably cool or uncomfortably hot. Another argument is that for any broad psychological property there is the possibility of an introspectively indistinguishable narrow one occurring in an hallucinatory, or otherwise non-veridical, fashion. If one or both of these arguments is persuasive then we must grant that a being with no multiplicity of intrinsic properties must lack psychological complexity. And I think it is precisely here that the simplicity of God has seemed so absurd to many. A simple God would seem to be one whose mental state was bare consciousness like Brahman is often taken to be. And how could we call such a God personal?

I shall reply to these two arguments in turn. First, there is no need to posit distinct narrow states as the introspectible component of distinct broad states. So the one divine narrow mental state could be the introspectible component of all the many divine broad mental states. And the reason why there is no need to posit distinct narrow states is that the broad ones are characterised functionally and one item can perform many functions. To take a low technology example, a piece of steel of a certain characteristic shape, which I call a wrecking bar, is apt for: removing nails; prising beams apart; moving heavy stones; keeping over-enthusiastic guard dogs at bay; etc.

Concerning the positing of narrow properties introspectively indistinguishable from the broad ones: these are posited precisely because of the possibility of such non-veridical mental states as beliefs with false existential presuppositions, hallucinatory sensations and so on. There is no need to posit them in the case of God.



My reply leads, however, to a further problem. For if the richness of the divine mental life derives from a multiplicity of extrinsic properties, then, it could be objected, *except for creation* the divine mental life would be impoverished. For what extrinsic properties could God have except for creation? One response to this is to allow a Platonic realm of abstract entities, *possibilia* etc which exist independently of God. Relations with these might well provide the extrinsic properties required for a rich divine psychological life. But the existence of such a Platonic realm even prior to creation might seem to conflict with the combination of divine simplicity and the aseity thesis itself.<sup>41</sup> For if the abstract entities depend on God without being created, should not they be parts or attributes of God? I shall treat this as a problem with aseity rather than simplicity. For the moment I simply record that, if we ignore aseity, divine simplicity can be defended using a combination of the intuition-transcending identification of various intrinsic properties, with a functionalist account of those psychological properties shared with us. This supports Thesis Two.

#### 6. *Consciousness re-examined, and the aseity thesis*

The final topic on the list is the aseity thesis, but before I consider the problem it raises I shall re-open the question of consciousness. Consider the imitation person whose brain processes play all the functional roles of ours, including those for pain, but feels nothing.<sup>42</sup> Such an imitation person is functionally indistinguishable from one of us but is nonetheless a fake, lacking consciousness. 'Not metaphysically possible!' physicalists can reply, or 'There is no property of being conscious'. Nonetheless there is enormous intuitive appeal in the thought experiment. It draws our attention to an astounding fact about ourselves which distinguishes us from the way we normally imagine rocks and plants to be. And unless we resort to the rather drastic expedient of panpsychism, surely being conscious is something which adds to the resemblance of things, like us, which are conscious.<sup>43</sup> So if we grant the Resemblance Principle as a property-theoretic intuition then the denial that consciousness is a property would not merely be intuition-transcending, but, it would seem, counter-intuitive.<sup>44</sup> Consciousness would then be a property. Furthermore, if it is a property then it is an intrinsic one, for surely that we are conscious is a respect in which we resemble each other but do not resemble the imitation person.

Admitting a property of consciousness is quite compatible with supervenience physicalism—it is a supervenient property provided there is no metaphysical possibility of an imitation person. But it is a serious difficulty for reductive physicalists, for, we have supposed, the imitation person is functionally indistinguishable from us. Hence the attempted functionalist characterisation of consciousness will result in the characterisation of a property which I shall call proto-consciousness which is, at best, coextensive with consciousness of metaphysical necessity, but not identical to it. We have, then, a further point of comparison between, in this case, reductive physicalism and divine simplicity,

namely Thesis Three which tells us that they have a shared problem with consciousness.

My solution to this problem is to adopt Thesis Four: reductive physicalists should allow both fine and coarse grain properties. We can insist that our property-theoretic intuitions are a mixture of ones appropriate for the two different theories. We are then able to say that for the purposes of formulating reductive physicalism we need a coarse grain theory, in which consciousness and proto-consciousness are identified, but that reflections on imitation persons alert us to various fine grain properties.

Whether or not physicalists resort to having both finer and coarser grain theories of properties I shall now argue that there are good reasons why classical theists should. This is because of the problem with the aseity thesis, which states that everything other than God depends on God. The problem with aseity does not concern the dependence of contingent things. For these, theists traditionally believe, were created by God. No the problem comes with the necessary beings, namely the Platonic realm of properties and possibilities, and other abstract entities. For unless God is aware of the possibilities prior to creation then it is totally mysterious as to how God could create wisely and well. The obvious solution to this problem is to assert that for God a nominalist or conceptualist theory of the Platonic realm would be correct and that there is nothing more to unactualised possibilities and uninstantiated properties than the divine knowledge of what is possible.

That nominalist solution implies that the divine knowledge of possibilities is an intrinsic property, which leads to a further problem. For now we seem to have two distinct intrinsic divine properties, the knowledge of possibilities and self-knowledge. One response by classical theists is to insist that once again we are mistaking the intuition-transcending for the counter-intuitive. We may transcend our intuitions by treating the divine knowledge of possibilities as the very same property as the divine self knowledge, perhaps because, in some way, the possibilities reflect the nature of God. But this leads to yet another problem. For then there is no distinction between God's knowing *this* possibility and God's knowing *that* possibility, and hence no explanation of why God chooses *this* rather than *that*. At very least it would seem that God must know the possible worlds as distinct in order to create some but not others.

I shall not, therefore, rely on the nominalist solution. Instead I propose reliance upon a fine grained theory of properties when stating the aseity thesis but a coarse grain theory when considering divine simplicity and transcendence. Thus we can explain how God chooses to create *this* rather than *that* by noting that there are distinct fine grain properties corresponding to these items of knowledge, even though they correspond to the very same coarse grain property. And, as I have already indicated, an analogous move could be made by physicalists in order to defend physicalism from the problem of consciousness. This supports Thesis Four.

### 7. Deflation

Physicalists are faced with the problem of consciousness, classical theists with the problem of the abstract entities. One response which both can make is to distinguish a fine from a coarse grain theory. There are obviously deflationary but also apparently non deflationary ways of interpreting this. The apparently non-deflationary interpretation is to insist that the most fundamental properties are indeed the coarse ones, and so some strong theses (notably the physicalists' denial of non-physical properties and the classical theists' denial of any distinction between the divine intrinsic properties) are true if we take the concept of a property in its more fundamental sense. It is then granted that a fine grain theory of properties can be derived from the coarse grain theory by considering, say, different analyses. For example, the grounding for self-knowledge would be the same coarse grain property as the grounding for knowledge of possibilities, but analysed in different ways just as in my earlier example of triangularity and trilaterality.

The obviously deflationary account is the other way round. On it the fundamental properties are the fine grain ones and we construct coarse grade properties from them by identifying properties which are metaphysically mutually entailing. Given that way of looking at it, divine simplicity, for instance, would amount to no more than saying that the divine properties are co-extensive of metaphysical necessity. And reductive physicalism would, for the special case of consciousness, amount to no more than supervenience physicalism: of metaphysical necessity there are no imitation persons.

There is, however, a problem with the non-deflationary account when it comes to divine simplicity. I find it hard to envisage how we can refine coarse properties which were themselves simple, that is ones which lack both any multiplicity of intrinsic properties (which would then be properties of properties) and any structure or composition out of other properties. Hence it would seem that we save the astounding doctrine of the simplicity of God only by positing a single intrinsic divine property, call it divinity, which it itself complex. We have merely shifted the complexity up from the particular to its unique intrinsic property. And that is itself a deflationary move.

### *Conclusion*

I conclude that non-eliminative physicalism, especially reductive physicalism is up to its neck in metaphysics and in much the same way as classical theism. Both need to resort to intuition-transcending theories of metaphysical possibility and/or properties, and both, I say, need to resort to a distinction between finer and coarser grain properties. In addition to these metaphysical similarities, reductive physicalism and classical theism are similar in their philosophical psychologies. Both require care when it comes to the property of consciousness and, more generally, both need to be supported by functionalism.

## NOTES

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1. If God is simple and if God has at least one property essentially, then God does not change. I fail to see, however, how this implies that God is eternal in the sense of being a non-temporal being. To be sure, contemporary 'Parmenideans' hold that any temporal being has temporal parts in which case simplicity directly implies eternity, but that argument depends more on the philosophy of time than on philosophical theology.

2. See Alvin Plantinga, *Does God have a Nature?* (Milwaukee: Marquette University Press, 1980), pp. 54-55. The part of sovereignty-aseity I am not endorsing is that everything is within God's control. God might have relinquished control on certain matters; or abstract entities, while dependent on God, might not be within God's control.

3. This is stronger than saying that God and God only is a se. For that would hold if God was a se, but some other things belong to an infinite regress of dependence relations without depending on God.

4. By an identification of X and Y I mean the theoretical claim that X is the very same as Y.

5. Or, equivalently, the intuition is that proper names are rigid designators.

6. Theodore Guleserian, 'God and Possible Worlds: The Modal Problem of Evil', *Noûs* 17 (1983) pp. 221-238.

7. See, for instance, Laura L. Garcia, 'A response to the Modal Problem of Evil', *Faith and Philosophy* 1 (1984), pp. 378-388, especially the remarks on intuitions on p. 384.

8. See D. M. Armstrong, *A Theory of Universals: Universals and Scientific Realism, Volume II* (Cambridge: Cambridge University Press, 1978), Ch 15, for a clear commitment to the Conjunction Principle.

9. If it is denied that properties are universals then we should say that a property is 'shared' by two particulars just in case they have exactly resembling properties.

10. Bealer calls the coarse grade *qualities*, the fine grade *concepts*. See George Bealer, *Quality and Concept* (New York: Oxford University Press, 1982), Ch 8.

11. This example stands in for a more complicated one that I find more persuasive. Characterise *trilaterality* as: being made up of the line segments AB, BC and CA for three distinct points A, B and C. Now characterise *being a Jordan curve* as: being the continuous one to one image of a circle. Assuming the properties of space are essential, then of necessity trilaterality is co-extensive with the conjunction of trilaterality and being a Jordan curve. The analog for quadrilaterality does not hold. (Consider the figure made up of AB, BD, DC, and CA, where ABCD is a square. That figure is not a Jordan curve, for Jordan curves do not intersect themselves.) That there is no such coextension in the case of quadrilaterality, supports the claim that even in the case of trilaterality we have two distinct properties.

12. Spontaneous beliefs in the mental states of others are, presumably, grounded in, without being consciously justified by, the perception of what is physical, especially behaviour.

13. Donald Davidson 'Mental Events' in *Essays on Actions and Events*

(Oxford: Clarendon Press, 1980).

14. Jaegwon Kim, 'Concepts of Supervenience', *Philosophy and Phenomenological Research* 45 (1984) pp. 153-76.

15. In response to such criticism Horgan has recently proposed *regional supervenience*, which is that no regions of any possible world can be qualitatively identical in all physical respects without being qualitatively identical in all respects. See Terence Horgan, 'From Supervenience to Superdupervenience', *Mind*, 102 (1993), pp. 555-586. There is, however, a position to which the referee has drawn my attention, that of a substance dualist who considers the mental to supervene on the physical. That is, there could be no two possible worlds with the very same physical substances and the very same allocation of physical properties to those substances, but with different mental substances or a different allocation of mental properties to mental substances. As far as I can see that position would satisfy Horgan's regional supervenience, but some might deny that it counts as physicalism of any sort. For my purposes I shall stipulate that it does.

16. The most notable case of a non-reductive supervenience physicalism is Davidson's anomalous monism. It fails to be reductive because there are no psycho-physical correlations.

17. See David Lewis, 'Mad Pain and Martian Pain', in *Philosophical Papers*, Vol I (New York: Oxford University Press, 1983). Abnormal 'Martians' might be in mad pain, but not all Martians could be.

18. For that reason Lewis, who seems reluctant to restrict the range of possibilities, has characterised a position called minimal materialism, which is weaker than supervenience physicalism. According to it, the mental supervenes on the physical only in a weaker sense of 'supervenes' based on a restriction of possibility to those possible worlds not containing alien natural properties. See David Lewis, 'New work for a Theory of Universals', *Australasian Journal of Philosophy* 61 (1983), pp. 343-77. The formulation of minimal materialism is on p.364.

19. Bosons and fermions are characterised by their statistical behaviour. In particular fermions unlike bosons are, in a suitably qualified sense, unable to occupy exactly the same state.

20. This is an extension of Aquinas' thesis that there can be no multiplicity of things of a given kind unless they differ in their matter.

21. I have refrained from speculating that God does have that power but is necessarily good and so necessarily does not exercise it. If the only prohibition on imitation persons is the necessity of divine goodness then we have not, I submit, captured the full force of the physicalist's rejection of imitation persons. Theists should, therefore, modify the definition of supervenience physicalism by considering not the possible worlds but the larger class of those worlds  $x$  such that God has the power to do something which if it were done would establish the possibility of  $x$ .

22. As Daniel Nolan pointed out to me, a similar case cannot be made for the counter-intuitive character of the claim that God necessarily does not exist.

23. Perhaps along the lines of Plantinga's criticisms of the argument from divine aseity to divine simplicity. (*Does God have a Nature?* pp. 28-38.)

24. Note that a Kripkean necessity of identity while not analytic could be analysed as the conjunction of an existential claim and an analytic non-contingency claim. If that is correct, then it is true in virtue of the way language functions that if Hesperus is Phosphorus then necessarily Hesperus is Phosphorus.

25. See for instance Thomas V. Morris, 'Necessary Beings', *Mind*, 94

(1985), pp. 263-72. Morris clearly distinguishes consistency from broad logical possibility. My terminology is different, but roughly speaking metaphysical possibility is the same as Morris' broad logical possibility, and my analytic contingency corresponds to the consistency of both the proposition and its negation. I would endorse Morris' examples of the Axiom of Choice and the Continuum Hypothesis as propositions which are non-contingent in a non-analytic fashion.

26. In the *Critique of Pure Reason* Kant in fact held that God is an 'ideal of pure reason', and as such not a construct so much as an indispensable fiction. The contemporary theologian Cupitt has, however, proposed that God is indeed a construct. See, for instance, Cupitt, Don, *The Sea of Faith* (Cambridge: Cambridge University Press, 1984).

27. I take it that the Kantian account of the laws of nature as imposed or constructed by the knowing mind has been dealt serious blows by the replacement of classical mechanics with general relativity and quantum mechanics. Concerning these theories I borrow Tertullian's epigram 'I believe because it is impossible', interpreting this to mean: the surprising character of these theories, which nonetheless help us understand the world, is evidence that they are not mere human inventions or constructions but genuine discoveries.

28. The idea is that what is necessary at a given time is that which is true at that time, and that time-independent necessity is that which has always been true. For the details, see Forrest, Peter, 'Physical necessity and the passage of time' in Riggs, P. J. (ed.) *Natural Kinds, Laws of Nature and Scientific Methodology*, Australasian Studies in History and Philosophy of Science (Dordrecht: Kluwer, 1996).

29. As on the Dretske Tooley Armstrong theory of laws of nature as a relation between universals. See Armstrong D. M. *What is a Law of Nature?* (Cambridge: Cambridge University Press, 1983). That theory seems to assume that facts about properties themselves instantiating (higher order) relations are necessary. One theistic parallel to this is to submit that divinity, if there is such a property, is self-instantiated, in which case whether or not there is such a property is not contingent.

30. As in footnote 9, if it is denied that properties are universals then 'shares any properties' has to be suitably paraphrased.

31. If God is not simple, then, for the purpose of this definition, I stipulate that divine parts or attributes are not 'other beings'.

32. Put to me by William McDonald.

33. The thesis that God is temporal only in the extrinsic fashion is open to many of the prima facie objections to the divine eternity. For a recent reply to those prima facie objections see Eleonore Stump and Norman Kretzmann, 'Eternity, Awareness and Action', *Faith and Philosophy* 9 (1992), pp. 463-482.

34. To press the analogy with circular time, let us suppose that God occupies one point on a circle, and that the history of the universe comprises an open semicircular arc consisting of just those points strictly more than 90° away from God on the circle. We may then correlate points on that arc with the whole of time as we know it, by representing time as we know it by points on the tangent to the circle at the point diametrically opposite God. Lines through the center of the circle intersect both the semicircular arc and the tangent just once, setting up the one to one correlation. The circle has two directions (earlier to later and later to earlier) even though these directions do not correspond to transitive later than and earlier than relations.

35. William Alston 'Functionalism and Theological Language', *Philosophical Quarterly* 22 (1985), pp. 221-230.

36. On Twin Earth the stuff which is phenomenally indistinguishable from water is not water because it is XYZ not H<sub>2</sub>O. Putnam suggests that the inhabitants of Twin Earth do not express the same belief as we do when they say that lakes are filled with water, for by 'water' they mean *that* stuff (which is in fact XYZ) not *this* stuff (which is in fact H<sub>2</sub>O). Nonetheless they could have the same narrow psychological property, for there could be the same patterns of spiking frequencies in their brains as in ours and the same attendant qualia, if any. See Hilary Putnam, 'The meaning of "meaning"' in K. Gunderson (ed.), *Minnesota Studies in the Philosophy of Science, Vol 7: Language, Mind and Knowledge*, (Minneapolis: University of Minnesota Press, 1975).

37. Thus a person in the relevant sense might well be taken as an attribute of the divine substance. (A person, whether human or divine, would still be a substance in the weak sense of that which can instantiate properties and relations even though not in the strong sense of that which is not itself instantiated. In our case our bodies instantiate us.) Hence the three persons are a prima facie threat to the identity of the divine properties. Let me also note that the idea of a person as a (functionally characterised) attribute, rather than a substance in the strong sense, coheres well with physicalism. But that further point of comparison is beyond the scope of this paper.

38. Part of the simplicity thesis which Plantinga is criticising in *Does God have a Nature?* is the identity of God with the divine nature.

39. Nor, since we are assuming divine transcendence is there the problem of how properties distinct in us could be the same in God.

40. To allow for sub-conscious states we should interpret 'introspectible' to mean 'of the same kind as ones which are introspected'.

41. I have not, note, assumed the sovereignty-aseity intuition. See *Does God have a Nature?* pp. 34-7 for Plantinga's statement of the problem of reconciling that intuition with the existence of abstract entities.

42. Campbell, Keith, *Body and Mind*, (2nd edition) (London: Macmillan, 1970), pp.100-01.

43. Nagel has defended panpsychism but it has not found favour with physicalists. (See Thomas Nagel, *Mortal Questions* [Cambridge: Cambridge University Press, 1979], ch 13.)

44. A way of avoiding this conclusion is to treat X's being conscious as a matter of X's being aware of something. We may then adopt a Humean No Self theory in which X's being aware of Y is just a matter of (i) Y's appearing and (ii) Y's appearing being a constituent of X. In place, therefore, of the property of consciousness we have the property of *appearing*. In place of the imitation person thought experiment we have the thought experiment of a world like this one except that nothing appears. The resulting issues are much the same. So even though I favour this approach it is not worth independent discussion.