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José Gusmão Rodrigues

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*Joint winner of the 2013 Philosophy
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There are no good objections to substance dualism

JOSÉ GUSMÃO RODRIGUES

Abstract

This article aims to review the standard objections to dualism and to argue that either they will fail to convince someone committed to dualism or are flawed on independent grounds. I begin by presenting the taxonomy of metaphysical positions on concrete particulars as they relate to the dispute between materialists and dualists, and in particular substance dualism is defined. In the first section, several kinds of substance dualism are distinguished and the relevant varieties of this kind of dualism are selected. The remaining sections are analyses of the standard objections to substance dualism: It is uninformative, has troubles accounting for soul individuation, causal pairing and interaction, violates laws of physics, is made implausible by the development of neuroscience and it postulates entities beyond necessity. I conclude that none of these objections is successful.

Introduction

What is the relationship between the mind and the physical body? How do intentionality and consciousness arise from particles and fields which are neither conscious nor have intentionality? Can we provide an explanation of why the feeling of tasting a specific kind of wine arises from a particular neural state of grey moist matter in the skull? Or of why certain neural firings can be about a certain difficult problem in algebraic topology rather than a group of ballerinas dancing *La Bayadere*? This set of questions, and others such as this, all point towards apparent thorny problems in accounting for the mental in terms of the material.

Broadly speaking, three kinds of answers have been typically given to account for mental-physical relations:¹

¹ Of course, these aren't exhaustive. One could say that all the fundamental properties are at the same time mental and physical like panpsychists

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Materialism – Every fundamental property is physical.

Dualism – Physical properties and mental properties are mutually exclusive and exhaust every fundamental property there is.

Idealism – Every fundamental property is mental.

In order to clarify this definition, an explanation is needed of what is a fundamental property, as opposed to other kinds of property, as well as an analysis of the concepts of physical and mental.

A property Φ is fundamental if and only if it can't be reduced to any other property and it will figure in the most basic laws of a complete theory of concrete particulars. I refuse to call this complete theory 'physics' for there may be possible worlds where the most overarching theory has a different form from what we call 'physics', for example by making no use of mathematics and be a purely qualitative theory, and I want my definition of fundamental property to be applicable independently of the world we are considering. The underlying line of reasoning behind this definition of 'fundamental' is that no matter how the space-time we inhabit is constituted, there will be a theory which will explain its workings appealing to basic laws which aren't further explained. In the case of our world, physics is the discipline which comes up with that theory and quantum theory and general relativity are the current example of where such general laws will be found². After physical entities are in place, the precise distribution of energy and matter in space-time fixes every other fact. The properties which fix every other property and figure in these basic laws are what I am calling fundamental properties. In this case, space, time and energy are fundamental properties. The important thing about these properties is that they have to be taken as a given, they can't be explained by anything else since they are the finish line of every explanation. The dualist proposal is that consciousness and intentionality are among the most fundamental properties.

The terms 'mental' and 'physical' are hard to define and it is by no means clear they can be defined or that a closer examination of these

or take fundamental properties as being neither mental nor physical, in which case one would be a neutral monist. One could even identify fundamental properties with abstract properties, as some versions of string theory seem to imply. In any case, these other alternatives haven't been as historically prominent as the main ones I present even if nowadays they are more popular than idealism.

² For this use of fundamental see David Chalmers. *The Conscious Mind*. Oxford (Oxford University Press, 1996), 126–129.

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concepts doesn't threaten the intelligibility of the whole Physicalism-Dualism debate, at least in part. Having said that, I believe the questions philosophers have been having for the past fifty years in philosophy of mind haven't been a waste of time and working definitions of these concepts can do the job well enough even if they don't pass the conceptual analyst test of necessary and sufficient conditions. With this in mind, here are my definitions of mental property and physical property:

Mental property – a property whose instantiation is either a phenomenal state or an intentional state.³

Physical property – a property that isn't fundamentally mental and is defined by its structural-causal role in a theory explaining the behavior of space-time entities.⁴

Besides these preliminary clarifications, one might also wonder why I prefer to define these doctrines via properties instead of objects, like in 'physicalism is the thesis that all objects are physical objects'. The main reason is that there are forms of dualism which aren't committed to any theses about the bearer of those properties (property dualism). Since there is no theorist who would say that a physical object could

³ I think this definition is inadequate because of its disjunctive nature and some people think that written sentences and certain sorts of pictures have intentionality. One could correct the definition and add that is intrinsic intentionality we are talking about, not derivative intentionality, but some people deny the former kind of intentionality exists without being eliminativists. Still, the definition I present suffices for this study.

⁴ The proposed definition of physical property has two parts: First, I require that physical properties can't be identical to, nor imply, primitive irreducible mental properties, like consciousness or intentionality. Secondly, I require that they are defined by their causal role in explaining the behavior of objects in space-time. Even more so than my definition of mental, this definition of physical has lots of problems. Just two quick examples: Some people believe in categorical properties, whose identity doesn't depend on its causal role; and isn't it weird to rule out physical objects without any causal properties by definition? No one knows how to define 'physical' and proposed definitions never find widespread acceptance among physicalists but only seem good for the ones who propose it. I don't think this is as problematic as it seems, because working definitions for specific questions work well enough (for example, even if physicists found out stuff outside space-time, and we had good reason to call those things physical, it's hard to think that has any relevance for the mind-body problem, personal identity or other issues on which substance dualism has any bearing).

have only mental properties or that a mental object could have only physical (non-mental) properties, there is no problem about following the same formulation in terms of properties for idealism and physicalism.

The taxonomy doesn't end here, for there are several subtypes of materialism, dualism and idealism. However, only dualism will be my concern, more particularly a specific kind of dualism. Dualists hold that spatiotemporal reality is comprised of two kinds of fundamental properties; physical, like spin, mass, charge and so on; and mental, like consciousness and intentionality, neither being reducible to the other. Types of dualism are distinguished by what else they add or not to the thesis: Property dualists hold just this thesis, being the weaker form of dualism and being compatible with physicalism regarding the bearers of those properties; Cosmological dualists further hold that mental properties exist in an alternate dimension, the brain being a receptor of the phenomenal states of this outer reality; finally, substance dualism holds that the bearers of mental properties aren't physical so they won't be brains or bodies as currently conceived.

I will be interested in this last specific type of dualism, known as substance dualism. Substance dualism is the view that holds that not only there are fundamentally mental properties (consciousness and intentionality), but that the bearers of these mental properties are also of a fundamentally different nature of the rest of the physical world. So our nature as human persons isn't exhausted by the matter that composes our body or our brain.

In what follows, I will first distinguish several varieties of substance dualism followed by a survey of the main objections and a comparison of how the main varieties of substance dualism fare against each other and against materialism. My conclusion is that there are plausible forms of substance dualism which resist every objection.

1. Varieties of substance dualism

There are two main varieties of substance dualism:

Strong Substance Dualism – Souls are immaterial objects whose properties are mental and they are distinct and independent of the body and the brain.

Moderate Substance Dualism – Souls are immaterial objects whose properties are mental and they are distinct, although not independent, of the body and the brain.

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There are sub-varieties of these two types of dualism: One can hold that a self or a person is just a soul (pure dualism) or a compound of a soul and a body (compound dualism); one can hold this soul to be a merely temporal being (non-spatial dualism) or that the soul is also extended through space (spatial dualism); maybe the soul is created by God (theistic dualism) or maybe it just is integrated with the rest of the natural world (naturalistic dualism); and, finally, versions of dualism are further distinguished by whether the soul enters in two-way causal relations with the body (interactionist dualism) or doesn't (epiphenomenalist, pre-established harmony and occasionalist forms of dualism).⁵

Since I cannot review each of the possible combinations of options,⁶ I will say something about my assumptions in the following sections. I won't speak about any sort of compound dualism because it is less attractive than pure dualism,⁷ nor theistic dualism since dualism strikes me as far more plausible than theism. I will choose to focus on interactive dualism by opposition to non-interactionist because it seems *prima facie* more attractive and less defensible.

In any case, the main distinction is between Strong and Moderate varieties of dualism. Strong dualists believe in the possibility of immaterial minds existing without a corresponding brain, while moderate dualists stress the interdependence between both. I will argue that there are defensible versions of both Strong and Moderate dualism in face of common objections to dualism.

2. The objection from unformativeness

One can imagine a detractor of substance dualism raise the following objection: Ok, even granting that there is a soul, you have given us no positive characterization of it. A soul is an entity that is not material. That is saying, it has no mass, no charge, no spin and so on and so forth. But what is a soul? What is it constituted of? Is there a science of the soul, just like there is a science of matter? If so, how

⁵ Cartesian dualism would be classified as a kind of Strong Theistic Interactionist Non-spatial Pure Dualism.

⁶ I believe that the most defensible form of substance dualism is a type of Moderate Naturalistic Interactionist Spatial Pure Dualism, even though I think many other forms of dualism resist the following objections well enough.

⁷ If it's the soul that thinks and I am not identical to my soul, then it seems I don't think or only think in a derivative way.

should we study it? If not, why is it so? Don't just tell me that a soul is an immaterial mind that has experiences and propositional attitudes for that is very close to just stating the triviality that we have the kinds of mental states we have, without furnishing a metaphysical account of what consists having those kinds of states.

The hypothetical objector finds dualism problematic for two related reasons:

- First, dualism doesn't adequately characterize the soul and the stuff that constitutes it whereas by contrast materialism has a positive characterization of the body (or brain) and the matter that composes it.
- Second, it is unclear how soul-stuff, ectoplasm or whatever, can explain consciousness or intentionality. In virtue of what properties is a soul consciousness? In virtue of what properties do souls have intentional states?

The first charge seems to me disingenuous. For in fact, believe it or not, physicalists don't have any kind of reasonable idea of what matter *is* as opposed to what it *does*. In philosophical jargon, they know a lot about the dispositional properties of matter, such as mass, charge and spin, but nothing about its intrinsic properties. Unfortunately, no one really knows what is realizing these functional properties.

Let me give some examples: We know mass is a property of objects which makes them resist acceleration, attract other masses, cause space-time to bend and a bunch of other things. But we don't know what is it about mass that makes the objects that possess it behave this way. 'Mass' is thus a functional role concept. Whatever behaves like mass, is mass! But this tells us nothing about *the intrinsic nature* of what is behaving like this! The same thing happens with electric charge. Physics tells us that electric charged objects have a certain pattern of acceleration that charges of the same kind (negative or positive) repel each other and that charges of opposite kinds attract each other and so on. Again, the more physics we know, the more it seems we know nothing about what the physical really is, as opposed to a bunch of things it does.⁸

⁸ Believe it or not, this russelian thesis that physics only tells us about dispositional properties is widely accepted by both philosophers of mind and science in recent years and very few objections have been raised against it. For an early proponent of the thesis and its role in the case for dualism, see John Foster *The Immaterial Self* (London and New York: Routledge, 1991).

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Taking this into account, it is a bit strange that physicists accuse dualists about having a bad picture of the mental, like if they had everything figured out about what matter is. In fact, I think dualists can claim an advantage here, as far as phenomenal consciousness is concerned, for *qualia* are taken to be intrinsic properties. The taste of sugar isn't a dispositional property. Tasting sugar may cause a bunch of reactions in our brain, but the taste of sugar is something over and above this causal role (even if tomorrow neuroscientists discovered that tasting lemon had similar reactions in our brain, wouldn't we still say there is a huge difference between the two tastes?). Maybe there is a possible world where sugar tastes like salt, but has the same kinds of causal reactions associated with it. True enough, materialists may deny that qualia in this sense exist or that the possibility of such world is illusory. Such a reply would be beside the point, which is that if we grant the dualist his thesis then it seems he will be better equipped than the materialist to tell us something about how the world is really like, in this case, the mental part of the world. Maybe some similar story could be told about conscious thoughts, desires and other propositional attitudes even though I am doubtful that it could be extended to unconscious propositional attitudes. In spite of this, phenomenal intrinsic qualities are enough to give the dualist an advantage over the materialist in terms of who has a greater knowledge of reality.

Other problem with this objection is that it assumes that there must be something that composes the soul apart from consciousness and intentionality. But why can't the dualist just hold that the soul is a bare particular whose only properties are consciousness and intentionality? Well, typically I think the dualist will also hold that the soul has properties such as libertarian free-will and rationality but the materialist will likely not be impressed by such properties. The embarrassing question for the kinds of dualism which defend that the only properties that the immaterial mind has are consciousness and intentionality: There are periods of sleep and unconsciousness. This means that occurrent mental properties can't be had *simpliciter* by the soul all the time. Rather, what makes up the existence of the soul is a capacity for mentality. But, so the objection continues, dispositional properties must be grounded in a categorical basis, so the soul must have hidden properties.

The reply of the dualist is threefold:⁹ Periods of unconsciousness don't require that intentional activity ceases. We know our brain remains active during unconscious periods of time, not only

⁹ I will hereforth use 'dualism' to mean substance dualism.

regulating bodily activity, but also realizing mental operations which have semantic content (intentionality), such as keeping our memories more or less the same. For the dualist, the soul is responsible for these functions relating to mental content, so it must be active and coordinated with the brain during this time. Or maybe, just like the brain is thought to make a lot of unconscious cognitive operations, the soul also continues to have sub-personal cognitive activity, which we don't know about because it happens below the level of consciousness. Unless we subscribe to the strong thesis that all intentionality is conscious intentionality, one can hold that there is no interruption of intentional activity in the soul.

Secondly, dualists can defend that the soul is a transient entity, which exists through time but discontinuously (appearing and disappearing according to nomological laws between brain and soul). Certain sorts of cases make us think that persons have to be transient entities even if you are a materialist. Imagine that your body gets frozen in a block of ice for two days before someone takes you out alive. What happened to you during those two days? On a biological view of personal identity, since both your brain and your body were completely frozen and were not realizing metabolic or neural processes, you didn't exist during that time. In other words, you would be a temporally discontinuous entity.

Thirdly, the dualist may reject the assumption that dispositional properties need to be grounded in categorical basis. Many philosophers of science, known as ontic structuralists, believe all physical properties are dispositional properties, and that these properties aren't grounded in anything else. On this view, particulars with primitive dispositional properties would be all there is. The dualist can also be an ontic structuralist about the soul and insist that mental dispositional properties are primitive.

In order to make what a soul is more intelligible, dualists may try an analogy with fields. The same way a brain in certain states generates electromagnetic fields; in other states he may generate subjects of experience. Eric Olson objects to this move by saying that fields are states rather than substances, either of the brain or of space-time itself. His sense of substance is different from mine, because he requires that something is a substance only if it's metaphysically independent from everything else, while I just require it is a bearer of properties. No matter, because I think, even in his sense, the analogy with electromagnetic fields resists the objection. It does so because some philosophers of physics want to reduce everything to fields (electrons and other particles turn out to be perturbations in the field) and others treat space-time itself as a field. So, this objection

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from fields turns on controversial metaphysical assumptions (as Olson himself admits).

The second set of questions just rests on confusion. Even if there is soul-stuff, the dualist position would preclude any kind of reductive explanation of intentionality and consciousness, in that case, some states of the soul would just be conscious or intentional, no further explanation being necessary, since they are both being taken as fundamental, primitive properties.

In the end, this charge of uninformativity is only a good objection if there are reasons to think that the challenge for dualists to give us positive and explanatory theories about the immaterial soul is unanswerable. However, no such reasons have been offered as we shall see in the following sections.

3. The objection from individuation

If we want to understand what something is we better know what makes it different from other things. In short, we need knowledge of how to individuate that something, whether those things are events, facts, propositions, properties or other kinds of things. Individuating something implies having criteria of the following form: For all α and β , if $\Phi\alpha$ and $\Phi\beta$ then $\alpha = \beta$. Φ is a property such that if two things possess it, then they are identical.¹⁰ For example, in the case of properties, some philosophers defend the view that they are individuated by their causal powers. That means that no two numerically different properties can play the mass role, or the weight role, or the spin role, etc.

Problems for the dualist supposedly arise because there are no plausible individuating criteria for souls. What makes qualitatively indistinguishable souls different? Let's imagine two temporally parallel souls such that every type of mental event that is instantiated in one is also instantiated in the other. Such souls would be exactly the same in every respect, so how can we give an informative answer about what makes them different from one another?

Before addressing this objection, let us think about the individuation of material objects since that presumably is the adequate

¹⁰ The criteria of individuation I am speaking here is not supposed to work across possible worlds, but just within a single world. Problems of transworld identity, if they are a problem at all, are a problem for both materialists and dualists.

standard of comparison to judge whether we can reasonably propose a criterion to individuate souls.

How do we individuate physical objects, like tables and chairs, in general? Two qualitatively indistinguishable chairs are different from each other. Why is that? The most common answer involves observing that their relationships to spatial regions are different. Two chairs can't occupy the same space at the same time. Therefore, individuating a particular chair is possible because the property of occupying a particular spatial region R is only possessed by it.

My first point is that issues of individuation seem to be problematic only for non-spatial forms of dualism. Spatial dualism since it assumes that the soul is in space can also individuate souls by their spatial locations. He can argue that the apparent conceptual truth that no two material objects can be in the same space is rooted in the deeper conceptual truth that no two objects of the same fundamental kind can be in the same space.

There is, however, a problem with this line of reasoning: It forgets to account for the individuation of space itself. It seems it is reasonable to ask: What makes one spatial region different from another?

Philosophers working in metaphysical questions have come up with two views about the nature of space: Substantivalism and relationalism.

Assume that relationalism is true. Relationalism is the view that space is constituted by the set of spatial relationships between objects. The existence of space then would be dependent on the existence of physical objects which implies that if relationalism is true then there will be no informative individuating criteria for physical objects, because space will be individuated by the physical objects there are and not the other way around. One could think that we could individuate objects by using spatial relations. Chair A is different from chair B, because it is at the right of chair C. The problem is that this move won't work in purely symmetrical worlds where A and B have the same spatial relationships to every object. Also, this view seems to get the explanatory relationship backwards, the *relata* seem to individuate the relation and not the way around. The relationship that A is at the right of C seems to presuppose the numerical difference between A and C rather than account for it. Furthermore, even if it were plausible to hold that spatial relations were not individuated by material objects and further that we could individuate material object by spatial relations, what makes it the case that one spatial relationship is different from the other? We would have to take differences between spatial relationships as primitive although I don't think that is plausible for previous aforementioned reasons.

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What if substantivalism is true? Substantivalism states that space is an independent substance whose identity-conditions don't depend on any other material object or their relationships. However we still need to know what makes a spatial region different from another. It can't be the spatial relationships between regions that individuate regions for according to substantivalism there can only be spatial relationships where there are spatial regions. A region can only be three meters apart from another if there is a corresponding amount of space between them. Relationships are therefore dependent for their existence on spatial regions and not the other way around. Are there any other options? On this view, it is impossible to individuate spatial regions by material objects, because the identity of the later is taken to be dependent on the former. We can't say that spatial region *R* is numerically different from spatial region *R'* because spatial region *R* contains chair *a* while spatial region *R'* contains chair *b* since the difference between chair *a* and chair *b* is supposed to be explained by their different locations.

No matter which metaphysical position about space you subscribe to, substance dualism seems therefore entitled to regard that souls differ by bare numerical identity. Soul *a* is numerically different from soul *b*, because soul *a* has the property of being identical to soul *a* and soul *b* lacks that property. Either it is problematical to individuate objects by bare numerical difference or it isn't. If it is, then that is also a problem for the materialist because either regions of space will differ from each other by bare numerical difference or material objects will; and, if it isn't, then dualism is off the hook for doing so.¹¹

Non-spatial dualists can also use other strategy to individuate souls, namely, individuate souls by their associated brains. Soul *a* is numerically different from soul *b* because soul *a* causally interacts with brain *a** and soul *b* with brain *b**. Individuating souls in this way would require denying the metaphysical possibility of simultaneous parallel causal interaction between a brain and two souls.¹²

¹¹ This point is made by Charles Taliaferro in his *Consciousness and the mind of God* (Cambridge University Press, 1994): 207–209.

¹² There is only apparent tension between saying that relationships seem to presuppose the numerical difference of their *relata* and trying to individuate souls by their causal relationships to brains since: 1. The brain's identity is being taken for granted and 2. The soul is distinct from the brain in virtue of possessing phenomenal properties that brain doesn't. The individuating role of the causal relationship isn't to distinguish souls from brains, which can be justified on independent grounds, but souls from each other.

Although this might seem like a genuine possibility, the dualist can explain those intuitions away by holding that two souls having exactly the same causal interactions with the same body is only possible because we are tacitly assuming that souls differ by bare numerical identity. If we try to account for the soul's identity by any other criteria then of course something's going to be metaphysically impossible, namely two souls having the property or the same relationship to an object the criterion tells us can only be possessed by one soul. Still, one might worry that the criterion seems *ad hoc* because there seems to be no independent motivation. The dualist here should reply that the materialists criterion based on spatial exclusion of the physical has also no independent justification. True, material objects seem impenetrable in our everyday lives and even in the case of microphysical entities like electrons, it seems they can't be at the same place at the same time. However, explaining this phenomenon without invoking the metaphysical impossibility of co-located material objects is easy. Since in the actual world material objects are composed of atoms and sub-atomic microphysical particles, and these entities are surrounded by forces which increase to infinity as one approaches the center, then no wonder we never see material things being penetrable since the surrounding forces would repel any other matter that came near enough. So, there is no independent argument for the metaphysical impossibility co-location of matter from observation, whether these are done by common folks or by physicists. Besides, if the dualist has some plausible arguments for the existence of souls and the only plausible candidate for informatively individuating souls is their causal relationships with brains, then it seems to me he is more than entitled to accept this last criterion of individuation and relying on the metaphysical possibility of systematic over-determination of the same brain events by two different souls without argument is question-begging. This last option assumes we can give an account of causal-pairing between minds and brains which takes us to our next objection.

4. Causal-pairing objection

The causal-pairing objection is arguably one of the most powerful objections to substance dualism. Its most worked out version comes from Jaegwon Kim and it is directed against non-spatial forms of dualism, although Kim also has arguments against positing spatial souls which I will deal with at the end of this section.

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Kim's argument involves comparing a scenario of ordinary physical causation to another situation of Cartesian soul causation. In the first case, there is a situation involving two guns, A and B which are fired at the same time, resulting in the simultaneous death of Adam and Bob. The inevitable question is: 'What makes it the case that the firing of A caused Adam's death and the firing of B caused Bob's death, and not the other way around?'¹³

Answering this question requires appealing to the different spatial relationships between the guns and their targets. This will result in different spatial trajectories of the bullets which explain the death of the respective persons.

Now let's turn to a scenario where the cartesian souls are the causal agents. Soul *a* wills for an arm to move up wards and soul *b* has the same wish at the same time. Adam and Bob's arms simultaneously move up wards. Assuming that soul *a* is paired with Adam's body and soul *b* with Bob's body, the challenge is to try to explain what accounts for this pairing relationship. Why is it that a certain soul mental acts cause changes in one body rather than in the other body?

A thesis about causation is being assumed in this argument, call it the *generality constraint*:

(GC) – Merely numerical differences can't ground differences in causal relationships.

What this means is that if there are two qualitatively identical objects who share every non-haecceitous property, then they can't have different causal interactions with other objects.

A dialectical point is in order: Most dualists are already committed to denying (GC) for libertarian free-will is committed to its negation. Imagine that Tim is traveling a garden of forking paths and is confronted with two choices: either he brings about a state of affairs where his body moves towards the right path or he causes his body to move in the direction of the left path. He moves towards the right one. Imagine now that Tom, a counterpart of Tim, identical in every respect, finds himself in the same circumstances, except for the detail that it is him and not Tim there. Tom goes towards the left path. Now, by stipulation, Tom and Tim don't differ in any respect, but have brought about different states of affairs. It

¹³ Kim, Jaegwon (2001). 'Lonely Souls: Causality and Substance Dualism', in K. Corcoran (ed.) *Soul, Body and Survival: Essays in the Metaphysics of Human Persons* (Ithaca: Cornell University Press). For criticism: Bayley et al. 'No Pairing Problem' *Philosophical Studies* 154 (3):349–360 (2011).

seems then, that libertarians are already committed to the claim that numerical differences can ground causal relationships.

Apart from this, numerous counterexamples to (GC) have also been proposed by Michael Tooley¹⁴ and others, here's two:

Case 1 – Assume a universe of three objects, A, B and C. Object A is two meters away from object B and object C is two meters away from B in the opposite symmetrical direction. Object A and Object C share all their non-haecceitous properties except their spatial location. Either of the two objects has a two percent chance of causing an object two crack when they are two meters away from it. B cracks. Most likely, either only A did it or only C did it. How to decide? We can't appeal to their different spatial locations, since they are at the same distance of the relevant object. So it seems we have to accept that their bare numerical difference is responsible for one of them having had a causal impact while the other didn't.

Case 2 – There is a property P such that x possesses it he will bring about Q or R. There is a property M such that x possesses it he will bring about Q or R. An object *a* that has both P and M, and acquires both Q and R. Was it having property P, or was a having property M the cause of its acquisition of Q and R? We have two states of affairs *a-having-P* and *a-having-M*, which relevantly differ only in their non-haecceitous properties. What makes it the case the *a-having-P* is responsible for *a* having Q rather than *a-having-M*?

My point is simply that since dualists can be singularists about causation, they can resist the above objection.

Apparently, spatial dualists are able to easily dodge this objection since they can argue that souls are causally paired with the brains they are co-located with. Jaegwon Kim has three complaints about spatial souls:¹⁵ The location of such souls is problematic; such souls imply a giving up dualism for a strange form of materialism; and the principle of impenetrability of souls is unmotivated.

¹⁴ Tooley, Michael. *Time, Tense, and Causation*. (Oxford: Clarendon Press, 1997), 200.

¹⁵ In his discussion, Kim assumes that spatial dualists must accept that souls are geometrical points, but since he gives no argument for why there can't be immaterial extended souls, I will consider his arguments independently of this thesis since I believe his charges are independent of the kind of dualism you believe in.

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If souls are in space, where are they? According to Kim, it begs the question to say that they are in our skulls just because they are in causal relations with our brains. I don't think it begs the question, since Kim is making an objection to the dualist, then the latter is entitled to use the resources of his own theory to answer the objection. If we have independent reasons to believe that causation requires spatial contact, the interactionist dualist can combine it with his own thesis that souls are continually causing interacting with brains to derive the conclusion that souls are in the brain. Furthermore, moderate spatial dualists can hold that the soul is dependent on brain activity, so it is only to be expected that it is in our skull interacting with it. Even radical spatial dualists can hold that some complex mental functions (such as our control of our own bodies) are dependent on brain-mind interaction so the soul needs to be close to the brain. So causal pairing would be explained by embodiment, and embodiment would be explained by souls occupying the same space our bodies/brain do.

There is an even simpler reply available to the dualist: namely, souls are extended in the same location as our bodies because they appear to be! Pains, itches, and dizziness are mental states of the soul and yet they seem to be located across our bodies. The dualist can explain this by co-locating the soul with our bodies or, given phantom limbs and related phenomena, just our brains. This is certainly no conclusive argument, but surely it is reasonable for the dualist to hold that, absent any contrary evidence, things are as they appear to be.

Kim's second objection is that once we locate souls in space, there is no longer any rationale to deny their being physical, even if it is an unusual kind of physical. The reply is that they aren't physical because they only have mental properties and these aren't explained by any other kind of property. No physicalism worth the name would accept primitive mental properties and subjects of experience fully constituted by those properties.

Finally, Kim suggests that the principle of spatial exclusion for souls is unmotivated. Such a principle is needed or we could have two spatially coincident souls in the same body and ask in virtue of which soul does that body arm move?

As I have already stated before, I think that there is also no independent motivation for the materialist principle of spatial exclusion and the dualist's account is simpler if he holds the following principle: No two things of the same fundamental kind can occupy the same space at the same time. Unlike the materialist principle, this explains why two regions of space can't be at the same place and why space doesn't exclude matter or other things to be occupied by it.

Also, what if there are possible worlds where two souls are located in the same body? The dualist may well defend that in such a possible world there is causal over-determination when such souls will the same things, but he may also insist that there is no reason to think that our world is like that since we never find observational effects of two non-parallel souls in the same body (if two souls are in the same body in the actual world it would be even more miraculous if they were parallel in every respect).¹⁶ To explain this, it is also possible for the dualist to add to his list of nomological laws that brains only interact with souls they generate and that they only generate one soul. This hypothesis is simpler than the actuality of multiple souls, so the dualist is justified in believing it.

5. The objection from mind-body causation

Traditional challenges to dualism tend to focus on causation. How can an immaterial mind cause motions in physical objects? How can two things of a fundamentally different nature causally interact?

Questions so generally formulated invite the retort: What is it about immaterial minds that you think makes it harder to enter in causal relationships with physical objects? What is it about causality that makes problematic interaction between different sorts of things? After all, physics gives us numerous examples of very different things interacting with each other: fields and particles, singularities, black holes, forces and charges, etc.

It is possible to concede that there is no good model of psychophysical causal interaction without giving up dualism, for one thing: this may be because there is no good model of causal interaction *simpliciter*. I believe that the most popular theories of causation: Counterfactual, covering-law, probability raising and primitivist analysis are all compatible with interactionism. Whatever the truth about causation is, the best theories we have now don't rule out immaterial minds causing bodily changes.

¹⁶ Multiple personalities don't manifest themselves at the same time. Why would souls be so nice as to take turns for the control of the body? There are also cases where both hemispheres are partially separated and some limbs begin to have personalities of their own. However, if there are two souls there, they control different halves of the body, and aren't in competition with one another. Again, why would souls be so nice so as to split their territory? These observations should lead the dualist to believe that genuine co-location of souls doesn't happen in the actual world, if any.

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Counterfactual theories of causation defend that *a* caused *b*, where *a* and *b* are token events, should be roughly analyzed as: *a* caused *b* iff were *a* not to occur, *b* would not occur.

What this means, is that the possible worlds where *a* occurs and *b* does not occur are further (more dissimilar in laws of nature and distribution of matter and energy) from our world than worlds where *a* occurs and *b* also occurs. The dualist can happily agree with all of this. She believes that if some mental events were not to occur, then some physical events would not occur either, as a matter of psychophysical laws of nature.

Covering law theories of causation treat sequences of events that can be subsumed under general laws as causal interaction. The dualist can reply that Tom's willing that *his arm was moved* led to his arm's movement because there is a general law that links every act of willing of an immaterial mind with some neural processes in the brain and consequently to his arm being moved.

Probability raising theories of causation say that *a* caused *b* iff *a*'s occurring raised the probability of *b*'s occurring. That is, there are more near possible worlds where *a* and *b* occurs, than were *b* occurs on its own. Again, the dualist can accept an account of causation as probability rising for mental events causing physical events. He agrees that Jane's feeling scared makes more likely her heart beat get higher than not.

Primitivist theories of causation leave causation as an unanalyzed relationship, with no informative analysis forthcoming. Dualists may embrace primitivism and say that just like physical causation just is what it is, there being no reductive theory that fits all cases, mental causation just is what it is, although it also happens in a highly ordered way because of the additional laws relating mind to brain.

The only theory of causation which may pose a problem for the dualist is the energy flow theory of causation.¹⁷ Those theorists think that *a* caused *b* only if there is some property that *a* transferred to *b*, in this case, energy. First, spatial dualists like Hart, may accept such theory, since they believe souls have energy, as I briefly explain in the next section. Secondly, those analyses have powerful counter-examples, like alleged cases of causal interaction where there is no transference of energy. One example being an interruption of blood flow to the brain which causes it's fainting or turning off a switch

¹⁷ For a statement of such theories see David Fair's 'Causation and the flow of energy' in *Erkenntnis*. 14:219–215 (1979). For criticisms check Ehring, Douglas. (1986) 'The transference theory of causation' in *Synthese*, 67: 249–258.

to turn the light off (clearly no energy is being transferred since the switch is off).

Thirdly, this sort of theory involves seeing energy as a single kind of thing that is transferred from object to object, but there are interpretations of energy where it is not a kind of stuff that can be transferred. We also say that velocity is transferred from one moving body to the next, but even if the second's body velocity equals the first, we would be rightly reticent to agree that there is some sort of transferred thing named velocity that is numerically identical between the first and second bodies. The property that is being instantiated in both cases may well be the same, but the fact that we are inclined to say that there are two instantiations and not one means that there is literally no transference of token-velocities. The same thing may be true of energy, and if it is so, the energy flow theorist is in trouble.

Finally, the physicalist may insist that our concept of spatial contact is bound together with our concept of causation. One billiard ball causes the other to move because there was spatial contact between them. Unfortunately for our physicalist, modern physics posits non-local interactions between particles: Consider two particles with a spin of $1/2$ initially bound together to form a system with a total spin of zero. Suppose we break this particles apart in space and one of the particles, call it p , goes towards Pluto and the other particle, call it p' , goes toward Mercury. Further suppose that at each planet there is an observer that will measure the particle's spin in some predetermined direction. Quantum mechanics dictates that the measurement will be anti-correlated. If in one planet the measured spin is $+1/2$, in the other the spin will be $-1/2$. The easiest way to explain would be to figure out some interaction between the particles at the moment they were separated, such that they spins would be different. Such explanations have been ruled out by the famous theorems proved by John Bell, conditional on some observations that have been well attested. The upshot is that spatial contact is not necessary for causation (or at least lawlike correlation).¹⁸

6. The objection from energy conservation

When philosophers blindly appeal to physics in defense of an idea without clearly stating an argument, one should proceed with

¹⁸ This example also counts against the energy exchange account of causation. This case is described in Robin Collins' 'The energy of the soul' in Baker and Goetz (ed.) *The Soul Hypotheses* (2011), 123–138.

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caution and a certain amount of suspicion. I believe that if philosophers clearly formulate this objection, they will see that no dualist will be convinced by it, in the least. Interactionism has often been charged with violating the laws of physics, in particular, the first law of thermodynamics which states that in an isolated system energy is conserved.

The argument can be formulated thus:

- (1) The universe is an isolated system.
- (2) In an isolated system, the total amount of energy is constant.
- (3) If souls interact with bodies, they change the total amount of energy of the universe.
- (4) Souls interact with bodies.
- (5) 1–4 are inconsistent.
- (6) Therefore, reject 4.

As it stands, the argument is rather weak, because the dualist can deny either (1) or (3), without giving up on (2), which is the law of conservation of energy, or (4), which is the statement of dualism itself.

The reasons for upholding (1) is that since the universe is everything there is then it doesn't exchange energy or matter with any other system because there isn't any other system. Every system there is is either the universe itself or a subsystem of the universe. Of course, the dualist will insist, that reasoning may well be convincing to a materialist, but a dualist doesn't think the universe is all there is, if by universe we mean the *physical* universe. Fortunately, for the dualist, he doesn't believe the physical universe is all there is, for he also believes in souls. Since souls are out of the physical universe and that according to the dualist they may be able to change the amount of energy in it, it follows that the universe is not an isolated system because souls can create energy in it. I don't believe the argument can't be reformulated by saying that the whole universe, souls included, has to be an isolated system, because systems are defined by their boundaries in space and time and on non-spatial dualism the souls aren't in space and have no such boundaries such that the definition of physical system doesn't apply to it. I will come back to spatial dualism in a moment.

It may be asked if there is any empirical evidence that this happens and the dualist may well reply that he doesn't espouse his dualism because of empirical reasons but metaphysical ones. In any case, it is doubtful any empirical evidence would be available in practice, since it is virtually impossible to measure the precise energy of the brain (or of a human body), see whether it remains constant or whether the variations are due to external physical factors or an

immaterial soul. Such an experimental set up, although maybe possible in principle, is out of the question in practice.

Rejecting (3) is also out of the question for the dualist, the materialist argues, because if souls affect the brain that can only be because they change the amounts of energy it has, creating synapses and other electrical activity *ex nihilo*. Again the materialist is being careless in his reasoning, because the soul may not change the *amount* of energy in the brain or other associated physical systems but just its *configuration* or how it is distributed. For instance, a non-physical force might change the resistance at certain synapses or how fast certain brain processes happen without changing the amount of energy in the systems where it acts. The materialist can reply that even if the laws of conservation wouldn't be violated in such a case, the laws of conservation of linear momentum would. In a very interesting article, Averill and Keating¹⁹ argue that there are two statements of the law of conservation of linear momentum, the weakest formulation being all that the physics implies and the stronger the one that the materialist needs to make his argument.

Here are the two formulations:

Strong formulation of conservation of linear momentum – If the total linear-momentum of a system is changed, then some net external physical force affects it.

Weak formulation of conservation of linear momentum – If the total external force is zero, the total linear-momentum is conserved.

I think it is clear that the stronger formulation is question-begging against the dualist who believes that the mind exerts force (like changing some objects velocity and acceleration) on the brain because for him the net external physical forces won't be all the relevant forces. By contrast, the weak formulation is completely compatible with dualism. The dualist agrees that if no external physical or non-physical force is active or if their sum equals zero, then a system's linear momentum will be conserved.

Is spatial dualism refuted by considerations relating to the conservation of energy? If souls are in space then the whole universe is an isolated system but there is no reason to suppose that spatial dualists are committed to a denial of conservation of energy in those circumstances. For it has been defended, by W. D. Hart,²⁰

¹⁹ Averill, E., and B. Keating (1981) 'Does Interactionism Violate a Law of Classical Physics?' *Mind* **90** (1981), 102–7.

²⁰ Hart, W. D. *The Engines of the Soul* (Cambridge:Cambridge University Press, 1988). 127–136.

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that associated with the extended soul there is a psychic energy which obeys to all the known laws about conservation. This psychic energy is defined in terms of a propensity to sustain beliefs and other intentional states, so that the intentional and the phenomenal are still regarded as primitives (or a capacity for intentionality or consciousness is taken as fundamental). It is reasonable to ask what does psychic energy have in common with other kinds of energy (chemical, mechanical, nuclear, etc.), in virtue of which they are all energy? The dualist can agree that this is an important question but reply that the physical kinds of energy are already diverse enough to make us wonder whether there is a single kind of homogenous stuff that has different manifestations or whether energy is a merely calculational device for us to be able to mathematically describe how ontologically different things can affect one another (conversion of electrical energy to mechanical energy). More could be said on this topic, but the ontological status of energy is murky enough to give the defender of psychic energy room for *manoeuvre*.

7. The objection from the neural dependency of the soul

Neurosciences teach us about numerous correlations between the mind and the brain. Scientists tell us that alcohol, chemical drugs, degeneration of nerve tissue or even direct damage to the brain will impair any number of functions, from reasoning ability and emotional reactions to bodily awareness and attention span. This is exactly what one would expect if materialism is true, for then every mental token would be identical to a tokening of a type of brain state from which it follows that mental functions will be heavily dependent on brain functions. Indeed, the strictest kind of dependence, since brain states will be identical to mental states.

Replying to this sort of facts, it should be noted that naturalistic dualists don't hold that mental states and events float free of physical facts. Their view is that there are relationships between mental facts and physical facts, just not that such connections will be rooted in metaphysical necessity, but merely in natural necessity. There are laws of nature such that certain kinds of mental events will only obtain in case other sorts of physical events obtain.

In the dualist's theory, a number of psychophysical nomological laws are posited to explain the dependence of the mental on the physical. Even the most unsophisticated formulation of the schema for the

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kind of laws the dualist believes in will suffice to answer this objection:

- Schema for psychophysical laws: For any brain x and soul y , soul y undergoes mental state of type f if and only if the brain undergoes a neural state of type f^* .

If the naturalistic dualist is right, then his theory fits the known facts about neural dependency just as well as the materialist hypotheses.

Still, it might be thought that if one is a radical dualist and thinks that the mind is not dependent upon the brain for its existence, the existence of these correlations will look mysterious. There is an issue here, for the radical dualist, in the sense I am defining the term, need not accept that the human mind is metaphysically dependent on the brain, just nomologically dependent. In sum, there may well be other possible worlds where human minds exist without brains. It is just the case that our world isn't like that. Secondly, even if one is a species of radical dualist that thinks minds can survive brains in the actual world, there are still moves available, namely the transductor hypothesis.²¹

The transductor hypothesis is the thesis that brains are necessary to convert the course grained information that the sensorial organs receive to the highly fine-grained visual, auditory and tactile information that is characteristic of human minds and, further, that the brain is also necessary for the mind to realize complex mental operations just like calculators are needed for normal people to do heavy arithmetic. The brain would be like a massive computer which brings the necessary sensorial information to the mind and through its considerable computational power amplifies its cognitive powers. Maybe, brain's architecture is necessary for everyday cognitive skills, but that doesn't mean it is necessary for every intentional activity of the soul. Mark Baker²² argues that the creative part of the language faculty is exclusively soul-based, or almost exclusively since the brain needs to receive some information about which words we want to use to know which muscles to move and how to move them. He argues that, given dualism, taking in to account that unlike the two other parts of the language faculty, the lexicon (the part that has a list of words) and the grammar (which consists in a set of rules to combine words) parts, the creative aspect of language use isn't

²¹ Lycan, William 'Giving Dualism its Due', *Australasian Journal of Philosophy* **87** (4):551–56 (2009).

²² Baker, Mark. 'Brains and Souls; grammar and speaking' in Baker and Goetz (ed.) *The Soul Hypotheses* (2011), 73–99.

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related to any sort of localized brain damage and no genetic defect affects it, it is reasonable to believe that the soul is fully responsible for it. Which capacities the soul can do on its own and which capacities it needs a brain for, would thus become an empirical issue.

8. Objections from ontological parsimony

The last objection, I want to discuss, although far from conclusive even from its proponents perspective, is often mentioned by physicalists when they are trying to justify their rejection of dualism. Dualism, it is said, postulates more entities in the world (mental particulars) than materialism. Not only that, it also postulates entities of a fundamentally different kind. So it is less simple than materialism both in terms of the number of particulars and the types of particulars. More than that, we already saw that in reply to objections some dualists may want to accept that souls differ by bare numerical identity (no informative individuating criteria) and all dualists have to postulate a number of nomological laws in addition to the usual set of laws of nature. So, one may argue that, since materialism is theoretically more elegant and ontologically more parsimonious than dualism, this constitutes a good reason to be a materialist and to reject dualism.

This objection is problematic because it is circular. A common formulation of Ockham's razor tells us that we shouldn't multiply entities beyond necessity. Dualists should reply that they aren't multiplying entities beyond necessity; after all, they have their arguments to believe there are non-physical bearers of irreducibly phenomenal and intentional properties. Worries about simplicity would only matter if the dualist theory and the materialist were equally good at accounting for the relevant data, a thing every competent proponent of dualism will deny.

9. Conclusion

There is no need to be afraid of dualism. My aim in this essay was to show that at the current stage of enquiry, we have no decisive reasons to rule out all forms of substance dualism and that in turn gives us reasons to explore these neglected theoretical options. A significant part of current literature on the mind-body problem, personal identity and other general metaphysical questions seems to me rife with anti-dualistic assumptions without good arguments to back it up.

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Such an attitude is dogmatic and contrary to good philosophical spirit. My hope is that this paper will give other philosophers motivation to explore substance dualism, build their own best dualistic hypotheses, not necessarily to adopt them, but to at least compare them with their physicalist rivals and see if they learn something about minds and selves in the process. In the end, it may be that we simply reject substance dualism because it raises more questions than it answers. If there is no good argument *for* substance dualism, then we might as well reject it on grounds of simplicity and theoretical elegance. No need to overload our ontology with strange entities. Luckily, many arguments have been proposed for substance dualism and it is by no means obvious that they all fail or at least that they are in worse shape than the arguments for materialism.²³ No committed dualist would be impressed by the standard materialist objections.²⁴

JOSÉ GUSMÃO RODRIGUES (jgusmao@hotmail.com) is a student at Universidade de Lisboa and a member of the philosophy research center Lancog. His main interests are in metaphysics and philosophy of mind and he is currently writing a dissertation on non-reductive moral realism and supervenience. He was awarded the 2012 Philosophy Award by the Portuguese Society of Philosophy and has a forthcoming article on global truth relativism and self-refutation on *Revista Portuguesa de Filosofia*.

²³ There have been many arguments for substance dualism: modal arguments, arguments from the non-vagueness and simplicity of the self, libertarian free-will, from the unity and continuity of consciousness, from the identity conditions of human persons and even inferences to the best explanation as a way of solving the measurement problem in quantum mechanics. The case for dualism is complex and made on multiple grounds. Although I personally don't find any of them convincing, I think that the standard arguments for Physicalism from the past success of science and causal closure are even worse. My suspicion is that they seem good from the perspective of their proponents because they think substance dualism is so obviously false that they don't even bother putting themselves in their opponents shoes to consider possible replies.

²⁴ Just for the record, I am neither a dualist nor an agnostic, but something close to a russelian monist.